FERNANDO A. PONCE
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WORK EXPERIENCE

Professor, Department of Physics, Arizona State University, Tempe, Arizona (Since 1999).
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

Doctor Honoris Causa, Universidad Nacional de Ingeniería. Lima, Peru, 2010.
Who is Who in America, 2010. *Who is Who in the World*, 2011.
Faculty Achievement Award for Defining Edge Research, Arizona State University. 2009.
Peruvian National Academy of Science, Corresponding Member. Lima, Peru, 2009.
7th Int. Symp. on Blue Lasers and Light Emitting Devices, Chair. 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.
Intel International Science and Engineering Fair, Co-Chair. Phoenix, Arizona, 2005.
Antorcha de Habich Award, Universidad Nacional de Ingeniería. Lima, Peru, 2005.
Doctor Honoris Causa, Universidad Ricardo Palma. Lima, Peru, 2005.
International Conference on the Physics of Semiconductors (ICPS-27), Chair. July 2004.
American Physical Society Fellow, elected 2002.
Honorary Professor, Universidad Nacional de Ingeniería, Lima, Peru, 2002.
Materials Research Society, Fall Meeting Chair. 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, 1981.
Organization of American States Fellow, 1974-1975.
Graduated Summa Cum Laude, Universidad Nacional de Ingeniería. Lima, Peru, 1971.

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

PROFESSIONAL ACTIVITIES:

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).

CONFERENCE CHAIR

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. Symp. High Resolution Electron Microscopy, Materials Research Society. 28 Nov 1988. Boston, MA. Co-Chair.
4. Sixth Latin American Symposium on Surface Physics. 3-7 September 1990. Cuzco, Peru. Chair.
5. First 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. Co-Chair.
11. Symposium on Semiconducting Materials, 14th International Congress on Electron Microscopy. 31 August – 4 September, 1998. Cancun, Mexico. Co-Chair
12. Fall Meeting Chair, Materials Research Society. 29 November - 3 December 1999. Boston, MA. Co-Chair
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. Tenth Latin American Congress on Surface Physics, CLACSA-10. July 2001, San Jose, Costa Rica. Chair.
16. Fourth 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. Co-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 Blue Lasers and Light Emitting Devices (ISBLLED-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 II Nitride Semiconductors, European Materials Research Society Spring Meeting (E-MRS 2009), 8-12 June 2009. Strasbourg, France. Co-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.

CONFERENCE COMMITTEES

(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. First 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. First 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. First 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. Seventeenth 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. IAC Chair
34. XIII 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. XIV 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 & Appls. (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 Blue Lasers & Light Emitting Diodes (ISBLLED-2010). Beijing ,China, May 2010. IAC Chair
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. OC Co-chair
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

PUBLICATIONS by FERNANDO A. PONCE

SUMMARY OF PUBLICATIONS

1. Editor of 11 books, inventor in 7 patents.
2. More than 220 publications in refereed journals, > 6,000 citations (Web of Science).
3. More than 300 technical talks, over 170 invited talks - listed below.

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*. Patent Application Filed: 24 November 2004. Issued 14 August 2007
6. U. S. Patent # TBD. F. A. Ponce, R. Garcia, and A. Thomas, Inventors. *Impurity-Method to Synthesize Highly Luminescent Doped Gallium Nitride Powders*. Patent Application Filed: 29 April 2005.
7. U. S. Patent # TBD. F. A. Ponce, S. Srinivasan, and H. Omiya, Inventors. *High efficiency light emitting devices*. Patent Application Filed: 14 April 2006.

BOOKS EDITED

1. O. J. Blembocki, F. H. Pollack and F. A. Ponce. *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*, Proceedings of the Pan American Advanced Studies Institute (PASI), San Jose , Costa Rica, June 25-July 3, 2001. 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).

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.
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 Physics and Applications of Group III Nitrides Semiconductor Compounds, B. Gil, ed. (Oxford University Press, 1998). 123-157.
4. F. A. Ponce, "*Nitride Semiconductors"*, in Encyclopedia of Applied Physics, Supplement. (1999), pp. 483-501.
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., UK, 2000), pp. 105-152.

PUBLICATIONS IN ARCHIVAL REFEREED JOURNALS – In reverse chronological order

1. Y. Huang, J.-H. Ryou, R. D. Dupuis, C. Pfluegl, F. Capasso, K. Sun, A. M. Fischer, F. A. Ponce. *Optimization of growth conditions for InGaAs/InAlAs/InP quantum cascade lasers by metalorganic chemical vapor d*eposition. Journal of Crystal Growth, submitted for publication, Sept. 2010.
2. B. Wang, D. Bliss, M. Suscavage, S. Swider, R. Lancto, C. Lynch, D. Weyburne, T. Li, F. A. Ponce. *Ammonothermal growth of high-quality GaN crystals on HVPE template seeds*. Journal of Crystal Growth, in press Nov. 2010.
3. P. G. Caldas, R. Prioli, C. M. Almeida, Jingyi Huang, and F. A. Ponce. *Plastic hardening in cubic semiconductors by nanoscratching*. Journal of Applied Physics, Accepted, October 2010.
4. J.-P. Liu, Y. Zhang, Z. Locher, 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. In press, September 2010.
5. F. A. Ponce, *Electrostatic energy profiles at nanometer-scale in group-III nitride semiconductors using electron holography*. Annalen der Physik, Vol. **522**, 2 Nov. 2010, DOI 10.1002/andp.20100112.
6. 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.
7. 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** (10), pp 2226-2232.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.

18. J. Hertkorn, S. B. Thapa, T. Wunderer, F. Scholz, Z. H. Wu, Q. Y. Wei, F. A. Ponce, M. A. Moram and 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.
25. J. P. Liu, J.-H. Ryou, Z. Lochner, J. Limb, D. Yoo, R. D. Dupuis, Z. H. Wu; A. M. Fischer; 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.
26. 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.
27. 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.
28. 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.
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INVITED TALKS – In reverse chronological order, at professional conferences, colloquia, and workshops.

1. *Microstructure and polarization fields in nitride semiconductors.* 17th International Conference on Microscopy of Semiconducting Materials (MSM-17). Cambridge, England. 4-7 April 2011.
2. *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.
3. *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.
4. *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.
5. *Electrostatic energy profiling of semiconductors by electron holography*. Symposium Celebrating Manuel Cardona. Santiago de Querétaro, Mexico. 17-21 August 2010.
6. *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.
7. *Lectures on Microscopy of Semiconductor thin films.* Microscopía 2010. Santiago de Cali, Colombia. 24-27 February 2010. www.cenm.org/micro2010/
8. *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/
9. *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
10. *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.
11. *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
12. *Moderator,* International Roundtable on Innovation in Advanced Materials. 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
13. *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
14. *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
15. *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/.
16. *Where is nanotechnology going?* International Scientific Seminar – Winter 2009. INICTEL-UNI, Lima Peru. 1 August 2009. http://www.ceprecyt.org/SCI/SCI2009i/SCI2009i.html
17. *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.
18. *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.
19. *Piezoelectric effects in InGaN-based green light emitting heterostructures.* Forchungsseminar von AHE und AFP, Otto von-Guericke University Magdeburg. Magdeburg, Germany. 4 June 2009.
20. *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

21. 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
22. *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
23. *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/
24. *Materials and light,* Peruvian Academy of Sciences, Member Induction Ceremony. Lima, Peru. 10 March 2009.
25. *Lectures on electron microscopy and spectroscopy*, 2nd Andean Workshop on Spectroscopy. Lima, Peru. 2-6 March 2009. http://www.espectroscopiaperu.org/
26. *The physics of solid-state lighting.* Physics Colloquium, Texas Tech University. Lubbock, Texas. 30 October 2008.
27. *Nano-structured semiconductors for optoelectronics and microelectronics*. 8th School of Condensed Matter Physics (VIII ENFMC). Pereira, Colombia. 22-26 September 2008.
28. *Lectures on microscopy of semiconductor nanostructures.* NSF Pan American Advanced Studies Institute (PASI) on Microscopy of Nanostructures. Cancun, Mexico. 21-29 August 2008.
29. *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.
30. *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.
31. *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.
32. *The physics of semiconductor lighting technologies*. Physics Colloquium, Pontifícia Universidade Católica do Rio de Janeiro. Rio de Janeiro, Brazil. May 29, 2008.
33. *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.
34. 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.
35. *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.
36. *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.
37. *Recent advances in GaN materials and devices.* International Workshop on Industrial Technologies for Optoelectronic Semiconductors (IWITOS 2008)). Seoul, Korea. 29 January 2008.
38. *The physics of solid state lighting.* Physics Colloquium. Physics Department. Utah State University. Logan, Utah. 13 November 2007.
39. *Properties limiting the performance of AlInGaN green lasers.* Visible InGaN Injection Lasers (VIGIL) Kickoff Meeting. Arlington, Virginia. 5-6 November 2007.
40. *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.
41. *Lattice mismatch and misfit dislocations in hexagonal nitride semiconductors.* Ninth Interamerican Congress on Electron Microscopy (CIASEM-9). Cusco, Peru. 24-28 September 2007.
42. *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.
43. *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.
44. *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.
45. *Imaging defects and interfaces in semiconductors.* The Robert Sinclair Symposium. Stanford University, California. 16 February 2007.
46. *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.
47. *Applications of high resolution electron microscopy.* 6th Congreso Bi-Nacional de Materiales y Metalurgia (CONAMET-2006). Santiago, Chile. 28 November 2006.
48. *Advances and challenges in nanotechnology.* 6th Congreso Bi-Nacional de Materiales y Metalurgia (CONAMET-2006). Santiago, Chile. 28 November 2006.
49. *The physics of solid state lighting.* 18th Latin American Symposium on Solid State Physics. Puebla, Mexico. Puebla, Mexico. 20-24 November 2006.
50. *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.
51. *Properties of semipolar InGaN quantum wells.* International Workshop of Nitride Semiconductors (IWN-2006). Osaka, Japan. 23-29 October 2006.

52. *Microstructure of AlN grown by lateral epitaxial overgrowth.* International Workshop of Nitride Semiconductors (IWN-2006). Osaka, Japan. 23-29 October 2006.
53. *Nanoscale properties of InGaN quantum wells for white light generation.* Encontro SBPMat 2006 (Brazilian MRS meeting). Florianopolis, Brazil. 9-12 October 2006.
54. *The human potential in science and technology ,* International Scientific Encounter (ECI-2006i), Universidad Nacional de Ingenieria. Lima, Peru. August, 2006.
55. *Generation of white light with semiconductors.* Colloquium, Universidad Ricardo Palma. Lima, Peru. 24 August 2006.
56. *Intellectual property and the wealth of nations.* National Institute for the Defense of Intellectual Property (INDECOPI). Lima, Peru. August, 2006.
57. *Trends and perspectives in nanotechnology.* International Scientific Encounter (ECI-2006i), Universidad Nacional de Ingenieria. Lima, Peru. August, 2006.
58. *Microscopic aspect of solid state lighting.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
59. *Determination of optical properties with high spatial resolution.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
60. *Electron holography in the TEM.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
61. *HRTEM of defects and interfaces.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy . Santiago, Chile. July 2006.
62. *High resolution transmission electron microscopy.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
63. *The physics of solid state lighting,* Physics Colloquium, Universidade Federal do Rio de Janeiro. Rio de Janeiro, Brazil. 22 June 2006.
64. 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
65. *Misfit strain relaxation mechanisms in InGaN epitaxy on GaN.* The Workshop on Compound Semiconductor Materials and Devices (WOCSEMMAD 06), Fountain Hills, Arizona. February 2006.
66. *Methods to produce white light via semiconductor radiation.* International Scientific Encounter (ECI 2006v), Universidad Nacional de Ingeniería, Lima, Peru. 2-5 January 2006.
67. *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.
68. *The physics of solid state lighting*. 4th Annual Meeting of the Brazilian Materials Research Society. Recife, Brazil. 16-19 October 2005.
69. *The physics of solid state lighting*. Conference on Nanostructured Materials and Nanotechnology. Ensenada, Baja California, Mexico. 20-22 September 2005.
70. *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.
71. *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.
72. *Materials for the 21st Century*. International Conference on Spectroscopy. Lima, Peru, 22-27 May 2005.
73. *High efficiency GaN/InGaN light emitting devices*, Colloquium Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China. 15 April 2005.
74. *The development of solid state lighting*, Seminar, Silan Azure Corporation, Hangzhou, China. 14 April 2005.
75. *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.
76. *The development of solid state lighting*, Colloquium Department of Electrical Engineering, Tsinghua University, Beijing, China. 11 April 2005.
77. *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.
78. *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.
79. *The physics of semiconductor lighting.* Opening Ceremony of the New Korean Optoelectronics Technology Institute (KOPTI). Gwangju, Korea. 25 November 2004.
80. *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.
81. *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).
82. *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.
83. *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.

84. *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.
85. *The physics and technology of semiconductor lighting.* 11th International Scientific Encounter (XI Encuentro Cientifico International). Plenary talk. Lima, Peru. 2-5 January 2004.
86. *The nature of nitride semiconductor epitaxy*. 11th Latin American Congress on Surface Science and Applications. Pucon, Chile. 8-12 December 2003
87. *Properties of InN epitaxial layers*. ONR Indium Nitride Workshop. Invited Talk. Freemantle, Australia. 16-20 November 2003.
88. *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.
89. *Microstructure and the electronic properties of InGaN*. 19th Congress of the Brazilian Society of Microscopy and Microanalysis. Caxambu, Brazil, 21-24 September 2003.
90. *The Physics of next-generation lighting*, Physics and Astronomy Colloquium, Arizona State University. Tempe, Arizona, 11 September 2003.
91. *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.
92. *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.
93. *Microstructure and electronic properties of InGaN alloys*. Fifth International Conference on Nitride Semiconductors (ICNS-5). Opening Plenary. Nara, Japan. 25-30 May 2003.
94. 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.
95. *Big projects on widegap semiconductors in the USA*, First Asia-Pacific Workshop on Widegap Semiconductors (APWS-2003). Hyogo, Japan. March 9-12, 2003.
96. *Microstructural issues in blue/UV light emitting semiconductors*, First Asia-Pacific Workshop on Widegap Semiconductors (APWS-2003). Hyogo, Japan. March 9-12, 2003.
97. *Microstructure and the electronic properties of nitride semiconductors*. Physics and Chemistry Colloquium, Sandia National Laboratories, Albuquerque, New Mexico. 13 February 2003.
98. *Direct determination of fields and charges in semiconductors using electron holography*, Latin American Symposium on Surface Physics, Merida, Venezuela, 2-5 December 2002.
99. *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.
100. *Probing physical properties at the nanometer scale.* Latin American School of Physics (ELAF-2002), Lima, Peru. 15-28 June 2002.
101. *Microscopic optical properties of InGaN*. 2nd International Workshop on Physics of Light-Matter Coupling in Nitrides. Crete, Greece, 26 May – 2 June 2002.
102. *Microstructure and the optical properties of InGaN alloys*. 201st Meeting of the Electrochemical Society. Philadelphia, Pennsylvania. 12-15 May 2002.
103. *Searching for true representation of Hispanic Americans in physics*. APS March Meeting, Indianapolis, Indiana. 18-22 March 2002.
104. *Properties on InGaN alloys for optoelectronic applications*. Symposium in Honor of Prof. Isamu Akasaki, Meijo University. Nagoya, Japan. 2 November 2001.
105. *The prospects for nanotechnology in microelectronics and optoelectronics*. Central American School of Physics. San Jose, Costa Rica. 6-10 November 2000.
106. *Microstructure and device performance in nitride semiconductor optoelectronic devices*. Meijo Workshop on Nitride Semiconductor (MSN2000). Nagoya, Japan. 28 September 2000.
107. *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.
108. *The role of defects in GaN epitaxy.* International Conference on Extended Defects in Semiconductors. Brighton, England. 18-22 July 2000.
109. *Film defects, growth dynamics, and device performance in GaN epitaxy.* American Conference on Crystal Growth, California. Fallen Leaf Lake, California. 4-7 June 2000.
110. *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.
111. *Microstructure and electronic properties of InGaN Quantum* Wells. American Physical Society, March Meeting. Paper A28.1. Minneapolis, Minnesota. 20 March 2000.
112. *Properties of high optoelectronic quality GaN thin films.* Focused German Meeting on Gallium Nitride. Bremen, Germany. 19-24 October 1999.
113. *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.

114. *Film defects and growth dynamics in wide bandgap epitaxy.* XVIII Congress of the international Union of Crystallography. Glasgow, England. 4-13 August 1999.
115. *Materials needs in opto-electronics and storage technologies.* Solid State Studies in Ceramics, Gordon Conference. Kimball Union Academy, New Hampshire. 1-6 August 1999.
116. *Film defects and growth dynamics in wide bandgap semiconductors.* Ninth Latin American Congress on Surface Science and Applications (CLACSA-9). La Habana, Cuba. 5-9 July 1999.
117. *The GaN revolution in light-emitting devices*. National Congress on Energy. Merida, México. 25-29 April 1999.
118. *Critical issues in the epitaxy of nitrides semiconductors*. Lawrence Symposium on Critical Issues in Epitaxy. Mesa, Arizona. 6-8 January 1999.
119. *Materials issues in III-V nitride epitaxy*. 45th American Vacuum Society Symposium. Baltimore, Maryland. 2-6 November 1998.
120. *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.
121. *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.
122. *Dislocations and the electrical/optical properties of GaN*. 1998 March Meeting of the American Physical Society. Los Angeles, California. 16-20 March 1998.
123. *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.
124. *Nitride semiconductors for green and blue light emission*, Open National Forum, Tokushima, Japan, 26 October 1997.
125. *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.
126. *Interfaces and Dislocations in III-V Nitrides*. Symposium on III-V Nitrides, Materials Research Society, San Francisco, April 1997.
127. *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.
128. *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.
129. *Materials issues in optoelectronics*. First U. S. A. - Argentina Bilateral Symposium on Materials Science and Engineering. Buenos Aires, Argentina. 12-16 November 1995.
130. *TEM observation of defects in III-V nitrides.* Topical Workshop on III-V Nitrides. Nagoya, Japan. 21-23 September 1995.
131. *Determination of the atomic structure of interfaces using transmission electron microscopy*. Third Interamerican Congress on Electron Microscopy. Caxambú, Brazil. 2-6 September 1995.
132. *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.
133. *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.
134. *Microstructure of GaN thin films for blue and ultraviolet light emitting devices.* Workshop on Diode Based Visible Sources. Palo Alto, California. 10 February 1995.
135. *Lattice structure of GaN heteroepitaxy.* 2nd Workshop on Wide Bandgap Nitrides. St. Louis, Missouri. 17 October 1994.
136. *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.
137. *Generation of misfit dislocations in semiconductor heteroepitaxy*. 2nd Interamerican Congress on Electron Microscopy; 1993 September 26-30; Cancun, Mexico.
138. *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.
139. *Misfit dislocation generation in semiconductor heteroepitaxy.* 1993 Stanford Symposium on "Applications of Contemporary Electron Microscopy"; Stanford; California; 1993 February 11.
140. *Trends in physical sciences research in industry.* 5th Symposium on Pan-American Cooperation in Experimental Physics: 1992 August 18-21. Cartagena, Colombia.
141. *High-resolution electron microscopy of semiconductors.* Northern California Society for Electron Microscopy Annual Meeting: 1992 June 4; Palo Alto, California.
142. *On-line image processing and computer control in high resolution TEM.* Tenth Pfefferkorn Conference on Signal and image Processing in Microscopy and Microanalysis, Scanning Microscopy International: 1991 September 16-19; Cambridge, England.
143. *High-resolution electron microscopy of semiconductor interfaces*. 17th Congress of Electron Microscopy; 1989 October 4-7; Lecce, Italy. Societá Italiana di Microscopia Elettronica.
144. *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.

145. *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. .
146. *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; Bristol, England.
147. *Structure of hydrogen-induced microdefects in silicon.* Electron Microscopy Society of America Annual Meeting. 1988 August 8-12. Milwaukee, Wisconsin.
148. *Early stages of growth in semiconductor heteroepitaxy.* First Ibero-American Workshop on Surfaces, Interfaces and Small Clusters. 1988 July 18-22. Paipa, Colombia.
149. *Atomic arrangement at semiconductor surfaces and interfaces.* Latin American Symposium on Surface Physics (SLAFS-V). 1988 July 11-15. Bogota, Colombia.
150. *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.
151. *Early stages of epitaxial growth of GaAs on silicon by MOCVD.* Workshop on Future Opportunities Through GaAs on Si. 1987 June 18-19; Marina del Rey, California.
152. *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.
153. *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.
154. *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.
155. *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.
156. *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.
157. *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.
158. *Applications of high-resolution electron microscopy to the study of surfaces and interfaces in semiconductors.* Eighth Surface/Interface Research Meeting, Northern California Chapter of the American Vacuum Society; 1986 May 29; Stanford, California.
159. *Direct observation of superlattice structures by high-resolution electron microscopy.* III-V Superlattice Workshop; 1986 May 5; Palo Alto, California.
160. *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.
161. *Atomic resolution electron microscopy of crystalline solids.* Annual Meeting of the New England Society for Electron Microscopy; 1985 December 4; Boston, Massachusetts.
162. *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.
163. *Structure of thin films and interfaces in semiconductor heteroepitaxy.* Annual Meeting of the Southern California Crystal Growers Association; 1985 August 27; Los Angeles, California.
164. *Lattice imaging of misfit dislocations in semiconductor heteroepitaxy.* Eighth Conference on Crystal Growth of the American Association on Crystal Growth; 1985 June 4-7; Fallen Leaf Lake, California.
165. *Structure of microdefects in crystalline semiconducting naterials.* Fourth International Conference on Microscopy of Semiconducting Materials; Oxford, England; 25-27 March 1985.
166. *Simultaneous structural and chemical characterization using high spatial resolution electron microscopy techniques.* Conference on Spectroscopic Techniques for Semiconductor Technology, SPIE; Los Angeles, California; 21-22 January 1985.
167. *HREM of defects and interfaces in semiconductor materials.* Northern California Crystal Growth Association Meeting; San Jose, California; 18 October 1984.
168. *Direct observation of the structure of interfaces using atomic-resolution electron microscopy.* First International Conference on the Structure of Surfaces (ICSOS—1); Berkeley, California; 13—16 August 1984.
169. *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.
170. *High resolution TEM of microdefects in semiconductors.* Electronic Materials Conference; Santa Barbara, California; 20 June 1984.
171. *Direct observation of the atomic structure of semiconductor materials.* Workshop on Advanced Analytical Techniques, California Institute of Technology; Pasadena, California; 9—11 May 1984.
172. *Atomic structure at semiconductor interfaces.* 30th National Vacuum Symposium of the American Vacuum Society; Boston, MA; 1–4 November 1983.
173. *Lattice imaging of defects and interfaces in semiconductor materials.* American Association of Crystal Growth Conference; Lake Tahoe, California; 1-3 June 1983.
174. *Direct observation of the lattice structure of defects and interfaces in semiconductors.* Symposium on Contemporary Electron Microscopy; Santa Barbara, California; 2 May 1983.

175. *Lattice mismatch and misfit dislocations in semiconductor heteroepitaxy.* International Conference on Properties and Structure of Dislocations in Semiconductors; Aussois, France; 7–11 March 1983.
176. *Lattice mismatch and misfit dislocations in semiconductor heteroepitaxy*. Condensed Matter Seminar, Max Planck Institute, Stuttgart, Germany; 19 March 1983.
177. *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.
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