

David P. Norton

BIOGRAPHICAL INFORMATION

Personal Information

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Education

- Ph.D., Electrical and Computer Engineering, Louisiana State University (1989)
- B.S., Electrical and Computer Engineering (Magna Cum Laude), Louisiana State University (1984)

Professional Experience

- Vice President for Research, University of Florida (2012-present)
- Associate Dean for Research, College of Engineering, University of Florida (2009-2012)
- Professor, Dept. of Materials Science and Engr, University of Florida (2003-present)
- Associate Professor, Dept. of Materials Science and Engr, University of Florida (2000-2003)
- Sr. Research Staff Member, Solid State Division, Oak Ridge National Laboratory (1997-2000)
- Research Staff Member, Solid State Division, Oak Ridge National Laboratory (1991-1997)
- Eugene P. Wigner Postdoctoral Fellow, Oak Ridge National Laboratory (1989-1991)

Honors and Awards

- Fellow, American Associate for the Advancement of Science (2009)
- Fellow, American Physical Society (2007)
- UF Research Foundation Research Professorship (2007)
- UF College of Engineering Doctoral Dissertation Advisor Award (2007)
- Fellow, American Vacuum Society (2006)
- UF-MSE Faculty Excellence Award (2004)
- DOE Energy 100 Award for RABiTS Superconducting Tape (2001)
- Federal Laboratory Consortium (FLC) 2001 Award for Excellence in Technology Transfer (2001)
- Second-in-Class Award, Ceramographic Competition, Scanning Electron Microscopy Category, 2001. Annual Meeting of the American Ceramic Soc., Indianapolis, IN (2001)
- R&D 100 Award for Coated Superconducting Tape (1999)
- American Museum of Science and Energy Technological Achievement Award (1999)
- Lockheed-Martin Technical Achievement Award (1999)
- National Academy of Engineering Frontiers of Engineering Invitee (1998)
- Lockheed-Martin Corporation Nova Award (1997)
- Lockheed-Martin Technical Achievement Award (1997)
- Lockheed-Martin Significant Event Award (1996)
- Dept. of Energy Division of Materials Research Competition Award (1996)
- Martin Marietta Energy Systems Technical Achievement Award (1991)
- Martin Marietta Energy Systems Significant Event Award (1991)
- Martin Marietta Energy Systems Technical Achievement Award (1990)

- Martin Marietta Energy Systems Significant Event Award (1990)
- ORNL Eugene P. Wigner Postdoctoral Fellow (1989)
- Louisiana State University 1989 Distinguished Dissertation Award (1989)
- Louisiana State University Troy H. Middleton Scholarship (1985)
- Louisiana State University Alumni Federation Fellow (1984)

ADMINISTRATIVE EXPERIENCE

- Vice President for Research, University of Florida (2012-present)
 - Management of the Division of Sponsored Research which handles proposal submission and award negotiation for the UF campus
 - Coordination and development of research policy for the University of Florida
 - Oversight of various university-wide research institutes, centers, and auxiliaries
 - Facilitate interdisciplinary research across colleges
 - Oversight of research compliance across the University which include export control, outside activities, conflict of interest, IRB, IACUC, and research-related fiscal matters.
 - Serve as Institutional Official for Institutional Review Board and IACUC
 - Serve as liaison between the University and external research entities
 - Promotion and development of research contract and grant activities from external sponsors.
- Associate Dean for Research, College of Engineering, University of Florida (2009-2012)
 - Support faculty, post-docs, and students within the College in developing and maintaining internationally recognized research programs
 - Identifying new research opportunities, facilitating interdisciplinary pursuits, and promote the College's research portfolio to research sponsors
 - Serve as the College's primary interface with the UF Division of Sponsored Research.
 - Oversight of the Office of Engineering Research which assists faculty with proposal submissions and administration of awards.
 - Review and approval of all research proposals and cost sharing commitments.
 - Oversee compliance efforts in the College which include export control, outside activities, conflict of interest, IRB, IACUC, and research-related fiscal matters.
 - Oversees various College-wide centers, institutes, and auxiliaries

RESEARCH EXPERIENCE

Research Interests

- Thin-Film Electronic Materials (synthesis, properties, and devices)
- Electronic Oxides (superconductors, ferroelectrics, dielectrics, magnetic and optical)
- Nanostructure Synthesis and Properties

Supervised Ph.D. Dissertations Completed

1. Seonhoo Kim, "Room Temperature Deposited Amorphous Semiconducting Oxides and Perovskite Complex Oxide Heterostructures," December 2011

2. Joseph Cianfrone, "Functional complex oxide thin films and related superlattices grown via pulsed laser deposition," December 2010
3. Fernando Lugo, "Synthesis and characterization of silver doped zinc oxide thin films for optoelectronic devices," May 2010
4. Patrick Sadik, "Examination of ZnO, CuCrO₂, and CuScO₂ properties for use in transparent electronics and chemical sensors," August 2009.
5. Charlee J. Callender, "Synthesis and characterization of BaFeO₃ and BiFeO₃ epitaxial films," May 2009.
6. Lii-Cherng (Daniel) Leu, "Development of alternative diffusion barriers for advanced copper interconnects," December 2008
7. Hyun-Sik Kim, "Growth and characterization of ZnO thin films for light emitting diodes," May 2008
8. Li-Chia Tien, "Synthesis and applications of metal oxide nanowires," May 2008
9. Mat Ivill, "Development of transition-metal doped Cu₂O and ZnO dilute magnetic semiconductors for spintronic applications," August 2007
10. Jean-Marie (George) Erie, "Pulsed laser deposition of doped ZnO and (Mg,Zn)O films for optoelectronic applications," May 2007
11. Seemant Rawal, "Alternative nitride diffusion barriers on silicon and germanium for copper metallization," December 2006
12. Kyung-Hoon Kim, "Nucleation and epitaxy of conductive buffers on (001) Cu For coated high-temperature superconducting conductors," August 2005
13. Hyung-Jin Bae, "Epitaxial Growth and Properties of KTaO₃ and Related Alloys," May 2005
14. Yuanjie Li, "development of ZnO-based thin film transistors and phosphorus-doped ZnO and (Zn,Mg)O by pulsed laser deposition," May 2005
15. Byoung-Seong Jeong, "Growth and Ferromagnetic Semiconducting Properties of TiO₂ thin films: an oxide-diluted magnetic semiconductor (O-DMS) for spintronics," May 2004
16. Jennifer Sigman, "Dielectric Response of K(Ta,Nb)O₃ thin films and superlattices grown by pulsed laser deposition," August 2004
17. Seh-Jin Park, "Growth of biaxially textured template layers using ion beam assisted deposition," December 2004
18. Yongwook Kwon, "Fabrication and characterization of ZnO-Based thin film field effect transistors," December 2004
19. Young-Woo Heo, "Growth and characterization of ZnO nanowires and thin films," December 2003.

Patents Issued

1. Norton DP, Park S-J, "Method of producing biaxially textured substrates and related articles, devices and systems," August 4, 2009, US Patent #7,569,521
2. Norton DP, Selvamanickam V, "Method of producing biaxially textured buffer layers and related articles, devices and systems," February 1, 2005, US Patent #6,849,580
3. Norton DP, Park C, Goyal A, "Buffer architecture for biaxially textured structures and method of fabricating same," April 6, 2004, US Patent #6,716,795
4. Goyal A, Kroeger DM, Paranthaman M, Lee DF, Feenstra R, Norton DP, "Method of depositing a protective layer over a biaxially textured alloy substrate and composition therefrom," September 17, 2002, US Patent #6,451,450
5. Norton DP "Method of physical vapor deposition of metal oxides on semiconductors," April 10, 2001, US Patent # 6,214,712.
6. Budai JD, Christen DK, Goyal A, He Q, Kroeger DM, Lee DF, List III FA, Norton DP, Paranthaman M, Sales BC, Specht ED, "High Tc YBCO superconductor deposited on biaxially textured Ni substrate," October 19, 1999, US Patent #5,968,877
7. Goyal A, Budai JD, Kroeger DM, Norton DP, Specht ED, Christen DK, "Structures having enhanced biaxial texture," September 28, 1999, US Patent #5,958,599

8. Goyal A, Budai JD, Kroeger DM, Norton DP, Specht ED, Christen DK, “Structures having enhanced biaxial texture and method of fabricating same,” April 27, 1999, US Patent #5,898,020
9. Goyal A, Budai JD, Kroeger DM, Norton DP, Specht ED, Christen DK, “Structures having enhanced biaxial texture and method of fabricating same,” April 21, 1998, US Patent #5,741,377
10. Goyal A, Budai JD, Kroeger DM, Norton DP, Specht ED, Christen DK, “Structures having enhanced biaxial texture and method of fabricating same,” April 14, 1998, US Patent # 5,739,086

Publication Record

Author of over 350 refereed journal articles. Publications cited over 11,000 times; *h*-index is 55.

1. Heo YW, Cho KM, Sun SY, Kim SY, Lee JH, Kim JJ, Norton DP, Pearton SJ, “Effects of channel dimensions on performance of a-InGaZnO(4) thin-film transistors,” *Journal Of Vacuum Science & Technology B* 29, (2011), 021203
2. Lee KC, Jo KM, Sung SY, Lee JH, Kim JJ, Jeong BS, Pearton SJ, Norton DP, Heo YW, “Low temperature processing of indium-tin-zinc oxide channel layers in fabricating thin-film transistors,” *Journal Of Vacuum Science & Technology B* 29, (2011), 021008
3. Khanna R, Douglas EA, Norton DP, Pearton SJ, Ren F, “Ti/Au Ohmic contacts to indium zinc oxide thin films on paper substrates,” *Journal Of Vacuum Science & Technology B* 28, (2010), L43-L46.
4. Sung SY, Kim SY, Jo KM, Lee JH, Kim JJ, Kim SG, Chai KH, Pearton SJ, Norton DP, Heo YW, “Fabrication of p-channel thin-film transistors using CuO active layers deposited at low temperature,” *Applied Physics Letters* 97, (2010), 222109/1-3.
5. Heo, YW, Pearton SJ, Norton, DP, “Size-Dependent UV Photosensitivity of Indium Zinc Oxide,” *Journal Of Nanoelectronics And Optoelectronics* 5, (2010), 143-146.
6. Chu MH, Kim SY, Sung SY, Lee JH, Kim JJ, Norton DP, Pearton SJ, Heo YW, “Catalyst-Free Patterned Growth of Well-Aligned ZnO Nanowires on ITO Substrates Using an Aqueous Solution Method and Lithography Process,” *Journal Of Nanoelectronics And Optoelectronics* 5, (2010), 186-190.
7. Kim S, Cianfrone JA, Sadik P, Kim KW, Ivill M, Norton DP, “Room temperature deposited oxide p-n junction using p-type zinc-cobalt-oxide,” *Journal Of Applied Physics* 107, (2010), 103538/1-5.
8. Jang JH, Kim HS, Norton DP, Craciun V, “Investigations of microstructural evolutions after rapid thermal annealing of phosphorus doped ZnO films grown by pulsed laser deposition,” *Journal Of Optoelectronics And Advanced Materials* 12, (2010), 535-537.
9. Polyakov AY, Smirnov NB, Govorkov AV, Kozhukhova EA, Belogorokhov AI, Norton DP, Kim HS, Pearton SJ, “Shallow and Deep Centers in As-Grown and Annealed MgZnO/ZnO Structures with Quantum Wells,” *Journal Of Electronic Materials* 39, (2010), 601-607.
10. Wang YL, Chang CY, Lim W, Pearton SJ, Norton DP, Chu BH, Lo CF, Ren F, Johnson JW, Rajagopal P, Roberts JC, Piner EL, Linthicum KJ, “Oxygen gas sensing at low temperature using indium zinc oxide-gated AlGaIn/GaN high electron mobility transistors,” *Journal Of Vacuum Science & Technology B* 28, (2010), 376-379.
11. Sung SY, Choi JH, Han UB, Lee KC, Lee JH, Kim JJ, Lim W, Pearton SJ, Norton DP, Heo YW, “Effects of ambient atmosphere on the transfer characteristics and gate-bias stress stability of amorphous indium-gallium-zinc oxide thin-film transistors,” *Applied Physics Letters* 96, (2010), 102107/1-3.
12. Lim W, Douglas EA, Norton DP, Pearton SJ, Ren F, Heo YW, Son SY, Yuh JH, “Improvement in bias stability of amorphous-InGaZnO₄ thin film transistors with SiO_x passivation layers,” *Journal Of Vacuum Science & Technology B* 28, (2010) 116-119.
13. Lim W, Douglas EA, Norton DP, Pearton SJ, Ren F, Heo YW, Son SY, Yuh JH, “Low-voltage indium gallium zinc oxide thin film transistors on paper substrates,” *Applied Physics Letters* 96, (2010), 053510/1-3.

14. Wright JS, Lim W, Norton DP, Pearton SJ, Ren F, Johnson JL, Ural A, "Nitride and oxide semiconductor nanostructured hydrogen gas sensors," *Semiconductor Science And Technology* 25, (2010), 024002/1-8.
15. Buyanova IA, Murayama A, Furuta T, Oka Y, Norton DP, Pearton SJ, Osinsky A, Dong JW, Tu CW, Chen WM, "Spin Dynamics in ZnO-Based Materials," *Journal Of Superconductivity And Novel Magnetism* 23, (2010), 161-165.
16. Pearton SJ, Ren F, Wang YL, Chu BH, Chen KH, Chang CY, Lim W, Lin JS, Norton DP, "Recent advances in wide bandgap semiconductor biological and gas sensors," *Progress In Materials Science* 55, (2010), 1-59.
17. Leu LC, Norton DP, Anderson TJ, McElwee-White L, "Stability of Cu/Ir/Si trilayer structure to moderate annealing," *Materials Science In Semiconductor Processing* 12, (2009), 151-155.
18. Chen KH, Wu WH, Chu BH, Chang CY, Lin JS, Pearton SJ, Norton DP, Ren F, "UV excimer laser drilled high aspect ratio submicron via hole," *Applied Surface Science* 256, (2009), 183-186.
19. Lim W, Douglas EA, Lee J, Jang J, Craciun V, Norton DP, Pearton SJ, Ren F, Son SY, Yuh JH, Shen H, Chang W, "Transparent dual-gate InGaZnO thin film transistors: OR gate operation," *Journal Of Vacuum Science & Technology B* 27, (2009), 2128-2131.
20. Ajmera HM, Anderson TJ, Koller J, McElwee-White L, Norton DP, "Deposition of WN_xC_y thin films for diffusion barrier application using the dimethylhydrazido (2^-) tungsten complex $(CH_3CN)Cl_4W(NNMe_2)$," *Thin Solid Films* 517, (2009), 6038-6045.
21. Kim D, Kim OH, Anderson T, Koller J, McElwee-White L, Leu LC, Tsai JM, Norton DP, "Chemical vapor deposition of WN_xC_y using the tungsten piperidylhydrazido complex $Cl_4(CH_3CN)W(N-pip)$: Deposition, characterization, and diffusion barrier evaluation," *Journal Of Vacuum Science & Technology A* 27, (2009), 943-950.
22. Jang JH, Kim HS, Norton DP, Craciun V, "Study of microstructural evolutions in phosphorus-doped ZnO films grown by pulsed laser deposition," *Journal Of Crystal Growth* 311 (2009), 3143-3146.
23. Polyakov AY, Smirnov NB, Govorkov AV, Kozhukhova EA, Kim HS, Norton DP, Pearton SJ, Belogorokhov AI, "Persistent photoconductivity in MgZnO alloys," *Semiconductors* 43, (2009), 577-580.
24. Lim W, Jang JH, Kim SH, Norton DP, Craciun V, Pearton SJ, Ren F, Chen H, "Interface dependent electrical properties of amorphous InGaZnO4 thin film transistors," *Journal Of Vacuum Science & Technology B* 27, (2009), 126-129.
25. Sadik PW, Ivill M, Craciun V, Norton DP, "Electrical transport and structural study of $CuCr_{1-x}Mg_xO_2$ delafossite thin films grown by pulsed laser deposition," *Thin Solid Films* 517, (2009), 3211-3215.
26. Davies RP, Abernathy CR, Pearton SJ, Norton DP, Ivill MP, Ren F, "Review of recent advances in transition and lanthanide metal-doped GaN and ZnO," *Chemical Engineering Communications* 196, (2009), 1030-1053.
27. Chen JY, Pan CJ, Tsao FC, Kuo CH, Chi GC, Pong BJ, Chang CY, Norton DP, Pearton SJ, "Characterization of ZnO nanowires grown on Si (100) with and without Au catalyst," *Vacuum* 83, (2009), 1076-1079.
28. Lugo FJ, Kim HS, Pearton SJ, Abernathy CR, Gila BP, Norton DP, Wang YL, Ren F, "Rectifying ZnO:Ag/ZnO:Ga Thin-Film Junctions," *Electrochemical And Solid State Letters* 12, (2009), H188-H190.
29. Lim W, Douglas EA, Kim SH, Norton DP, Pearton SJ, Ren F, Shen H, Chang WH, "High mobility InGaZnO4 thin-film transistors on paper," *Applied Physics Letters* 94, (2009), 072103/1-3.
30. Leu LC, Norton DP, McElwee-White L, Anderson TJ, "Properties of reactively sputtered W-B-N thin film as a diffusion barrier for Cu metallization on Si," *Applied Physics A-Materials Science & Processing* 94, (2009), 691-695.
31. Kim KH, Norton DP, Christen DK, Cantoni C, Paranthaman M, Aytug T, "Epitaxial growth of MgO/TiN multilayers on Cu," *Vacuum* 83, (2009), 897-901.

32. Tien LC, Norton DP, Budai JD, "Epitaxial growth of transparent tin oxide films on (0001) sapphire by pulsed laser deposition," *Materials Research Bulletin* 44, (2009) 6-10.
33. Lim W, Douglas EA, Kim SH, Norton DP, Pearton SJ, Ren F, Shen H, Chang WH, "Low-temperature-fabricated InGaZnO₄ thin film transistors on polyimide clean-room tape," *Applied Physics Letters* 93, (2008), 252103/1-3.
34. Chu BH, Leu LC, Chang CY, Lugo F, Norton D, Lele T, Keselowsky B, Pearton SJ, Ren F, "Conformable coating of SiO₂ on hydrothermally grown ZnO nanorods," *Applied Physics Letters* 93, (2008), 233111/1-3.
35. Tien LC, Pearton SJ, Norton DP, Ren F, "Synthesis and microstructure of vertically aligned ZnO nanowires grown by high-pressure-assisted pulsed-laser deposition," *Journal Of Materials Science* 43, (2008), 6925-6932.
36. Pearton SJ, Norton DP, Tien LC, Guo J, "Modeling and Fabrication of ZnO Nanowire Transistors," *IEEE Transactions On Electron Devices* 55, (2008), 3012-3019.
37. Budai JD, Liu W, Tischler JZ, Pan ZW, Norton DP, Larson BC, Yang W, Ice GE, "Polychromatic X-ray micro- and nanodiffraction for spatially-resolved structural studies," *Thin Solid Films* 516, (2008), 8013-8021.
38. Leu LC, Sadik P, Norton DP, McElwee-White L, Anderson TJ, "Comparative study of ZrN and Zr-Ge-N thin films as diffusion barriers for Cu metallization on Si," *Journal Of Vacuum Science & Technology B* 26, (2008), 1723-1727.
39. Ajmera HM, Heitsch AT, Anderson TJ, Wilder CB, Reitfort LL, McElwee-White L, Norton DP, "Deposition of WN_xC_y for diffusion barrier application using the imido guanidinato complex W((NPr)-Pr-i)Cl₃[(PrNC)-Pr-i(NMe₂)(NPr)-Pr-i]," *Journal Of Vacuum Science & Technology B* 26, (2008), 1800-1807.
40. Ajmera HM, Heitsch AT, Bchir OJ, Norton DP, Reitfort LL, McElwee-White L, Anderson TJ, "Deposition of WN_xC_y using the allylimido complexes Cl₄(RCN)W(NC₃H₅): Effect of NH₃ on film properties," *Journal Of The Electrochemical Society* 155, (2008), H829-H835.
41. Pearton SJ, Lim WT, Wright JS, Tien LC, Kim HS, Norton DP, Wang HT, Kang BS, Ren F, Jun J, Lin J, Osinsky A, "ZnO and related materials for sensors and light-emitting diodes," *Journal Of Electronic Materials* 37 (2008), 1426-1432.
42. Lim WT, Jang JH, Kim SH, Norton DP, Craciun V, Pearton SJ, Ren F, Shen H, "High performance indium gallium zinc oxide thin film transistors fabricated on polyethylene terephthalate substrates," *Applied Physics Letters* 93, (2008), 082102/1-3.
43. Kim KH, Norton DP, Christen DK, Budai JD, "Formation of oxidation-resistant Cu-Mg coatings on (001) Cu for oxide superconducting tapes," *Surface & Coatings Technology* 202, (2008), 5136-5139
44. Wang YL, Ren F, Kim HS, Norton DP, Pearton SJ, "Materials and process development for ZnMgO/ZnO light-emitting diodes," *IEEE Journal Of Selected Topics In Quantum Electronics* 14, (2008), 1048-1052
45. Kim K, Norton DP, Christen DK, Cantoni C, Aytug T, Goyal A, "Epitaxial (La, Sr)TiO₃ on textured Ni-W as a conductive buffer architecture for high temperature superconducting coated conductor," *Physica C* 468, (2008), 961-967.
46. Kim HS, Lugo F, Pearton SJ, Norton DP, Ren F, "Properties of post-annealed ZnO films grown with O₃" *Physica Status Solidi A* 205, (2008), 1631-1635.
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48. Kim HS, Lugo F, Pearton SJ, Norton DP, Ren F, "The effects of buffer growth parameters on heteroepitaxial ZnO films grown by pulsed laser deposition," *Vacuum* 82, (2008) 1259-1263.
49. Buyanova IA, Wang XJ, Pozina G, Chen WM, Lim W, Norton DP, Pearton SJ, Osinsky A, Dong JW, Hertog B, "Effects of hydrogen on the optical properties of ZnCdO/ZnO quantum wells grown by molecular beam epitaxy," *Applied Physics Letters* 92, (2008), 261912/1-3.

50. Jeong BS, Pearton SJ, Heo YW, Norton DP, Hebard AF, "Anomalous Hall effect in sputter-deposited $\text{Co}_x\text{Ti}_{1-x}\text{O}_{2-d}$ films," *Journal Of Magnetism And Magnetic Materials* 320, (2008), 2376-2381.
51. Erie JM, Li Y, Ivill M, Kim HS, Pearton SJ, Gila B, Norton DP, Ren F, "Properties of Zn_3N_2 -doped ZnO films deposited by pulsed laser deposition," *Applied Surface Science* 254, (2008), 5941-5945
52. Ivill M, Pearton SJ, Rawal S, Leu L, Sadik P, Das R, Hebard AF, Chisholm M, Budai JD, Norton DP, "Structure and magnetism of cobalt-doped ZnO thin films," *New Journal Of Physics* 10, (2008), 065002/1-21.
53. Lim W, Kim SH, Wang YL, Lee JW, Norton DP, Pearton SJ, Ren F, Kravchenko II, "Stable room temperature deposited amorphous InGaZnO_4 thin film transistors," *Journal Of Vacuum Science & Technology B* 26, (2008), 959-962.
54. Kim HS, Lugo F, Pearton SJ, Norton DP, Ren F, "Dependence of $\text{Zn}_{1-x}\text{Mg}_x\text{O} : \text{P}$ film properties on magnesium concentration," *Journal Of Vacuum Science & Technology B* 26, (2008), 968-972
55. Lim WT, Sadik PW, Norton DP, Gila BP, Pearton SJ, Kravchenko II, Ren F, "RF-sputtered CrB_2 diffusion barrier for Ni/Au Ohmic contacts on p-CuCrO₂," *Applied Surface Science* 254, (2008), 5211-5215
56. Lim W, Kim S, Wang YL, Lee JW, Norton DP, Pearton SJ, Ren F, Kravchenko II, "High-performance indium gallium zinc oxide transparent thin-film transistors fabricated by radio-frequency sputtering," *Journal Of The Electrochemical Society* 155, (2008), H383-H385.
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58. Xu J, Ott R, Sabau AS, Pan ZW, Xiu FX, Liu JL, Erie JM, Norton DP, "Generation of nitrogen acceptors in ZnO using pulse thermal processing," *Applied Physics Letters* 92, (2008), 151112.
59. Lim WT, Norton DP, Jang JH, Craciun V, Pearton SJ, Ren F, "Carrier concentration dependence of Ti/Au specific contact resistance on n-type amorphous indium zinc oxide thin films," *Applied Physics Letters* 92, (2008), 122102/1-3.
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61. Wang YL, Kim HS, Norton DP, Pearton SJ, Ren F, "Dielectric passivation effects on ZnO light emitting diodes," *Applied Physics Letters* 92, (2008), 112101/1-3.
62. Kim HS, Lugo F, Pearton SJ, Norton DP, Wang YL, Ren F, "Phosphorus doped ZnO light emitting diodes fabricated via pulsed laser deposition," *Applied Physics Letters* 92, (2008), 112108/1-3.
63. Lim WT, Sadik PW, Norton DP, Pearton SJ, Ren F, "Dry etching of CuCrO_2 thin films," *Applied Surface Science* 254, (2008), 2359-2363
64. Lim W, Craciun V, Siebein K, Gila BP, Norton DP, Pearton SJ, Ren F, "Surface and bulk thermal annealing effects on ZnO crystals," *Applied Surface Science* 254, (2008), 2396-2400
65. Lim W, Wang YL, Ren F, Norton DP, Kravchenko II, Zavada JM, Pearton SJ, "Indium zinc oxide thin films deposited by sputtering at room temperature," *Applied Surface Science* 254, (2008), 2878-2881.
66. Kim HS, Erie JM, Pearton SJ, Norton DP, Ren F, "Investigation of electrical and optical properties of ZnO thin films grown with O_2/O_3 gas mixture," *Applied Physics A* 91, (2008), 251-254.
67. Kim HS, Pearton SJ, Norton DP, Ren F, "Pulsed laser deposition of high-quality ZnO films using a high temperature deposited ZnO buffer layer," *Applied Physics A* 91, (2008), 255-259.
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69. Pearton SJ, Kang BS, Gila BP, Norton DP, Kryliouk O, Ren F, Heo YW, Chang CY, Chi GC, Wang WM, Chen LC, "GaN, ZnO and InN nanowires and devices," *Journal Of Nanoscience And Nanotechnology* 8, (2008), 99-110.

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71. Tien LC, Pearton SJ, Norton DP, Ren F, "Synthesis and characterization of single crystalline SnO₂ nanorods by high-pressure pulsed laser deposition," *Applied Physics A* 91, (2008), 29-32.
72. Wang YL, Covert LN, Anderson TJ, Lim WT, Lin J, Pearton SJ, Norton DP, Zavada JM, Ren F, "RF characteristics of room-temperature-deposited, small gate dimension indium zinc oxide TFTs," *Electrochemical and Solid State Letters* 11, (2008), H60-H62.
73. Lim W Norton DP Pearton SJ, Wang XJ, Chen WM, Buyanova IA, Osinsky A, Dong JW, Hertog B, Thompson AV, Schoenfeld WV, Wang YL, Ren F, "Migration and luminescence enhancement effects of deuterium in ZnO/ZnCdO quantum wells," *Applied Physics Letters* 92, (2008), 032103/1-3.
74. Callender C, Norton DP, Das R, Hebard AF, Budai JD, "Ferromagnetism in pseudocubic BaFeO₃ epitaxial films," *Applied Physics Letters* 92, (2008), 012514/1-3.
75. Lim WT, Sadik PW, Norton DP, Gila BP, Pearton SJ, Kravchenko II, Ren F, "Ir diffusion barriers in Ni/Au ohmic contacts to p-type CuCrO₂," *Journal Of Electronic Materials* 37, (2008), 161-166.
76. Claflin B, Look DC, Norton D, "Changes in electrical characteristics of ZnO thin films due to environmental factors," *Journal of Electronic Materials* 36, (2007), 442-445.
77. Galinetto P, Casiraghi A, Mozzati MC, Azzoni CB, Norton D, Boatner LA, Trepakov V, "Magnetic and structural studies in Co- and mn-implanted SrTiO₃ single crystals," *Ferroelectrics* 368, (2008), 120-130.
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79. Pearton SJ, Kang BS, Tien LC, Norton DP, Heo YW, Ren F, "ZnO-based nanowires," *NANO* 2, (2007), 201-211.
80. Kim HS, Pearton SJ, Norton DP, Ren F, "Behavior of rapid thermal annealed ZnO:P films grown by pulsed laser deposition," *Journal Of Applied Physics* 102, (2007), 104904/1-8.
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10. Norton DP, Cantoni C, Christen DK, Budai JD, Park C, "Nucleation and Epitaxy of Oxides on Metals", in Crystal Growth in Thin Films: Control of Epitaxy, ed. A. Perrin, (Transworld Research Network), (2002), pp. 87-104.
11. Pennycook SJ, Prouteau C, Chisholm MF, Christen DK, Verebelyi D, Norton DP, Kim M, Brown- ing ND, Buban JP, Pan T, Hamet JF, "The Relationship Between Grain Boundary Structure and Current In High-T_c Superconductors," in Studies of High Temperature Superconductors: Micro- structural Studies In HTSC," ed. A. V. Narlikar, (Nova Science Publishers, New York), (2000).
12. Norton DP, "Science and Technology of High-Temperature Superconducting Films," in Annual Reviews of Materials Science, vol. 28, (1998), pp. 299-347.

Books Edited

1. Advances in Electronic Ceramics II, Eds. Shashank Priya, Anke Weidenkaff, and David P. Norton, Volume 30, Issue 9, Wiley, 2009.
2. Developments in Strategic Materials, Eds. H.-T. Lin, K. Koumoto, W. M. Kriven, E. Garcia, I. E. Reimanis, and D. P. Norton, Volume 29, Issue 10, 2008.
3. Laser-Solid Interactions for Materials Processing, Eds. D. Kumar, D. P. Norton, C. B. Lee, K. Ebihara, and X. Xi, Materials Research Society Proceedings Volume 617, MRS, 2001.
4. Substrate Engineering-Paving the Way to Epitaxy, Eds. D. P. Norton, D. G. Schlom, N. Newman, and D. H. Matthiesen, Materials Research Society Proceedings Volume 587, MRS, 2000.
5. Advanced Laser Processing of Materials-Fundamentals and Applications, Eds R. K. Singh, D. Norton, L. D. Laude, J. Narayan, and J. Cheung, Materials Research Society Proceedings Volume 397, MRS, 1996.
6. Laser Ablation in Materials Processing: Fundamentals and Applications, Eds B. Braren, J. J. Dubowski, and D. Norton, Materials Research Society Proceedings Volume 285, MRS, 1993.

Invited Seminars

1. "Research Activities within the College of Engineering at the University of Florida," Harris Corporation, Melbourne, FL, 2010
2. "Emerging Science and Technology Opportunities in Electronic Oxides," Army Research Laboratory, Aberdeen Proving Grounds, Aberdeen, MD, June 2009.
3. "ZnO Thin Films and Nanowires for Photonics, Spintronics, and Sensors," Vanderbilt University, Nashville, TN, December 2007
4. "ZnO Thin Films and Nanowires for Photonics, Spintronics, and Sensors," Seoul National Laboratory, Seoul, Korea, October 2007

5. "ZnO Thin Films and Nanowires for Photonics, Spintronics, and Sensors," Kyungpook National Laboratory, Daegu, Korea, October 2007
6. "Charge and Spin-Based Electronics using ZnO Thin Films and Nanowires," University of Alabama, Tuscaloosa, AL, October 2004
7. "Nucleation and Epitaxy of Heteroepitaxial Oxide Films," Naval Research Laboratory, October 2000.
8. "Status of Rolling Assisted Biaxially Textured Substrates for HTS Coated Conductors," Institut für Festkörper- und Werkstofforschung, Institute for Metallic Materials, Dresden, Germany, October 2000.
9. "Electronic oxide thin-film materials: From superconductivity to microelectronics," ENEA, Frascati Research Center, Rome, Italy, June 2000.
10. "Electronic oxide thin-film materials: From superconductivity to microelectronics," University of Twente, Enschede, Netherlands, May 2000.
11. "Electronic oxide thin-film materials: From superconductivity to microelectronics," Département Physique, De La Matière Condensée, University of Geneva, Geneva, Switzerland, May 2000.
12. "Electronic oxide thin-film materials: From superconductivity to microelectronics," Dept. of Physics, Vanderbilt University, April 2000
13. "High-k Dielectrics for MOSFET Gate Oxides," Intel Corp., Santa Clara, CA, April 1999.
14. "Properties of Infinite Layer (Ca,Sr)CuO₂ Thin Films," IBM Yorktown Heights, 1994.
15. "Thin Film Heterostructures by Laser Ablation," Dept. of Materials Science and Engr., University of Florida, October, 1995.
16. "Formation of Artificially Layered Superconducting Materials by Pulsed-Laser Deposition," Dept. of Materials Science and Engineering, University of Tennessee, Knoxville, TN, October 1994.

Presentations At Professional Conferences/Meetings

Invited Presentations (First-Author)

1. "Pulsed-Laser Deposition of ZnO Thin Films and Heterostructures for Device Applications," American Physical Society March Meeting, Pittsburgh, PA, March 2009
2. "P-type conduction and light-emitting diodes using phosphorus-doped ZnO," 2008 Fall Meeting of the Materials Research Society, Materials Research Society, Boston, MA, November 2008.
3. "ZnO thin film and nanowire devices," 214th Meeting of the Electrochemical Society, Honolulu, HI, October 2008.
4. "P-type Doping and Light Emitting Junction Formation in ZnO," 213th Meeting of the Electrochemical Society, Phoenix, AR, May 2008
5. "ZnO P-Type Doping in ZnO Thin Films: Current Status," 14th International Workshop on Oxide Electronics, Jeju Island, Korea, October 2007
6. "Doping in ZnO Thin Films and Heterostructures," Annual Meeting of the Southeast Section of the American Physical Society, Nashville, TN, November 2007.
7. "Synthesis and Doping in ZnO Films and Nanowires," Conference on Laser Ablation, Tenerife, Spain, September 2007
8. "ZnO Thin Films and Nanowires for Photonics, Spintronics, and Sensors", 5th International Symposium on Transparent Oxide Thin Films for Electronics and Optics, Kanagawa, Japan, May 2007
9. "Transition metal doped ZnO for spintronics," 2007 Spring Meeting of the Materials Research Society, Materials Research Society, San Francisco, CA, April 2007
10. "Nanostructured Perovskite Thin Films for Tunable RF Applications," 32nd Annual GOMACTech Conference, GOMAC, Lake Buena Vista, FL, March 2007
11. "Chemical Sensing with ZnO nanorods," TMS 2007 Annual Meeting & Exhibition, TMS, Orlando, FL, February 2007
12. "ZnO PN Junctions for Highly-Efficient, Low-Cost Light Emitting Diodes," DOE Solid State Lighting Workshop, DOE, Phoenix, AR, January 2007
13. "Charge Carrier And Spin Doping In ZnO Thin Films For Device Applications", 2006 Fall MRS

- Meeting, Boston, MA December 2006
14. "P-type doping and electroluminescence for ZnO," SPIE Meeting , San Diego, CA, August 2006
 15. "Charge- and Spin-Based Devices in ZnO Thin Films and Nanostructures," American Physical Society March Meeting, Baltimore, MD, March 2006
 16. "Ferromagnetism in ZnO:Mn Epitaxial Films: Dependence on Carrier Density," AFOSR Wide Band Gap Ferromagnetic Semiconductors Workshop, Edinburgh, Scotland, May 2005
 17. "Pulsed laser deposition of acceptor doped ZnO," European-MRS, E-MRS, Strasbourg, France, May 2005
 18. "Charge carrier and spin doping in ZnO thin films," 4th International Symposium on Transparent Oxide Thin Films for Electronics and Optics, Tokyo, Japan, April 2005
 19. "Ferromagnetism in ZnO:Mn Epitaxial Films: Dependence on Carrier Density," ARO Workshop on Spintronics in Wide Bandgap Semiconductors, Gainesville, FL, February 2005
 20. "ZnO Spintronics and Nanowire Devices," 2004 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2004
 21. "Charge and Spin-Based Electronics using ZnO Thin Films," 206nd ECS Meeting, The Electrochemical Society, Honolulu, Hawaii, October 2004
 22. "Dielectric Response Of K(Ta,Nb)O₃ Thin Films And Asymmetric KNbO₃/KTaO₃ Superlattices," XIII International Materials Research Congress 2004, Cancun, Mexico, August 2004.
 23. "Growth of the Anatase Polymorph of TiO₂ Doped with Co using Epitaxial Stabilization: Do we have a 300 K DMS?", ONR Workshop on Frontiers of Epitaxial Engineering, Moab, Utah, May 2004
 24. "Charge and Spin Doping in Epitaxial ZnO Thin Films and Nanostructures," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
 25. "Wide Bandgap Semiconductors for Semiconductor Spintronics," 2003 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2003
 26. "Doping ZnO for charge and spin electronics, " 10th International Workshop on Oxide Electronics, Augsburg, Germany, September, 2003.
 27. "Dielectric Response Of K(Ta,Nb)O₃ Thin Films Grown By Pulsed Laser Deposition," XII International Materials Research Congress 2003, Cancun, Mexico, August 2003.
 28. "Hydrogen-Assisted Oxide Epitaxy on Semiconductors," ONR Workshop on Epitaxial Heterogeneous Interfaces – Formation & Epitaxy, Tenaya Lodge at Yosemite, Fish Camp, CA, May 4-8, 2003
 29. "Pulsed Laser Deposition Of Oxides: Recent Advances And Challenges," 2003 Spring Meeting of the Materials Research Society, San Francisco, CA, April 21-25, 2003
 30. "ZnO Thin Films And Nanostructures Of Functional Electronics," Florida Chapter of the American Vacuum Society 2003 Annual Symposium, Orlando, FL, March 17-18, 2003
 31. " Charge and Spin Functionality in Wide Bandgap Semiconducting Oxides," SPIE Conference on Quantum Sensing: Evolution and Revolution from Past to Future, San Jose, CA, January 25-31, 2003
 32. "Spin And Charge Functionality In Doped ZnO," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
 33. "Gate Dielectrics For FET Structures," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
 34. "Epitaxy of complex oxides on dissimilar substrates", Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002.
 35. "Materials for quantum computing," 5th Annual Southeast Ultrafast Conference, Nashville, TN, January 11-12, 2002.
 36. "Reactive sputter deposition of epitaxial CeO₂ on (001) Ge and InP," MRS Workshop on Dielectric Science & New Functionality in Device Physics for Crystalline Oxides on Semiconductors, Chattanooga, TN, September, 2001.

37. "Current status of coated conductor development based on the RABiTS Process," 5th European Conference on Applied Superconductivity, Copenhagen, Denmark, August 2001
38. "Heteroepitaxial growth of complex oxides on metals and semiconductors," 2001 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2001.
39. "Nanostructured oxide interfaces and thin films," International Conference on Metallurgical Coatings and Thin Films, San Diego, CA, May 2001.
40. "Electronic oxide film growth for microelectronics and superconductivity," 2000 International Conference on Electronic Materials and European Materials Research Society Meeting, Strasbourg, France, June 2000.
41. "Dissimilar epitaxy of oxides," D. P. Norton, Workshop on Nanoscale Phenomena in Perovskite Thin Films, Argonne, IL, February 2001.
42. "RABiTS-based HTS coated conductors," SCENET European Network for Superconductivity, Topical Workshop on Coated Conductors, Göttingen, Germany, May 2000.
43. "Chemical deposition techniques for high temperature superconducting film growth," SCENET European Network for Superconductivity, Topical Workshop on Coated Conductors, Göttingen, Germany, May 2000.
44. "BaF₂ method for high temperature superconducting film growth," SCENET European Network for Superconductivity, Topical Workshop on Coated Conductors, Göttingen, Germany, May 2000.
45. "Reel-to-reel processing of HTS tapes," SCENET European Network for Superconductivity, Topical Workshop on Coated Conductors, Göttingen, Germany, May 2000.
46. "Plume-Induced Strain and Texture in Pulsed Laser Deposited Oxides," American Physical Society March 2000 Meeting, DMP Focused Session on Laser Applications in Materials Physics," Minneapolis, MN 2000.
47. "Pulsed-Laser Deposition of Electronic Oxides: Superconductor and Semiconductor Applications," SPIE LASE 2000, Laser Applications in Microelectronic and Optoelectronic Manufacturing V, " San Jose, CA 2000.
48. "Alternative Gate Dielectrics on Semiconductors for MOSFET Device Applications," 6th International Workshop on Oxide Electronics, College Park, MD 1999.
49. "Energetic Ion Effects in Pulsed-Laser Deposition," Gordon Research Conference on Laser Interactions with Materials, Andover, NH 1998.
50. "Synthesis of Epitaxial YBCO / Oxide / Metal Heterostructures for Deposited HTS Conductors," Symp. on Advances in Laser Ablation of Materials, 1998 Spring Meeting of the Materials Research Society, San Francisco, CA 1998.
51. "Epitaxial YBCO on Rolled-Textured Metals for HTS Applications," 4th International Workshop on Oxide Electronics, College Park, MA 1997.
52. "High Critical Current Y-123 Thick Films on Industrially Scalable Substrates for Conductor Applications," Cryogenic Engineering Conference / International Cryogenic Materials Conference, Portland, OR 1997.
53. Epitaxial YBa₂Cu₃O₇ on Biaxially Textured (001) Ni: An Approach to High Critical Current Density Superconducting Tapes," ISTEC/MRS International Workshop on Superconductivity, Big Island, Hawaii 1997.
54. "Low Cost Metal Substrates for Films with Aligned Grain Structure" First Conference on Future Generation Photovoltaic Technologies, Denver, CO 1997.
55. "Role of Energetic Species in Laser Ablation Film Growth," 1997 Annual Meeting of the TMS, Orlando, FL 1997.
56. "Epitaxial Growth of YBa₂Cu₃O₇ on Biaxially-Textured (001) Ni," 1996 Fall Meeting of the Materials Research Society, Boston 1996.
57. "Formation and Properties of Artificially-Layered Cuprate Superconductors," SPIE Intl. Symp. on Lasers and Integrated Optoelectronics, San Jose, CA 1996.
58. "Synthesis of Artificially-Layered Cuprate Superconductors By Pulsed Laser Deposition," Gordon Research Conference on Superconductivity, Les Diablerets, Switzerland 1995.

59. "Formation of Artificially-Layered High Temperature Superconductors Using Pulsed Laser Deposition," Eighth International Conference on Superlattices, Microstructures, and Microdevices, Cincinnati, OH 1995 .
60. "Formation of Artificially-Layered High-Temperature Superconductors Using Pulsed-Laser Deposition," Third International Conference on Laser Ablation, Strasbourg, France 1995.
61. "Formation of Artificially-Layered Thin-Film Compounds Using Pulsed-Laser Deposition," Spring Meeting of the Materials Research Society, San Francisco, CA 1995.
62. "Recent Developments in Metal-Oxide Film Growth Using Pulsed-Laser Deposition," TMS Conference on Ion Beam and Laser Processing of Materials, Las Vegas, NV 1995.
63. "Formation and Properties of Artificially-Layered SrCuO₂/BaCuO₂ Superconducting Superlattices," Workshop on High-Temperature Superconductivity: Physical Properties and Mechanisms, Miami, FL 1995.
64. "Artificially-Layered and Metastable Thin-Film Materials Development Utilizing Pulsed-Laser Deposition", International Conference on Novel Techniques in Synthesis and Processing of Advanced Materials, Rosemont, IL 1994.
65. "Artificially-Layered and Metastable Thin-Film Materials Development Utilizing Pulsed-Laser Deposition", International Conference on Processing and Advanced Applications of Lasers, Palm Coast, FL 1994.
66. "Properties of Doped and Undoped (Sr, Ca)CuO₂ Thin Films," ETL Workshop on High Temperature Superconductors, Tsukuba-shi, Japan 1993.
67. "Properties of Doped and Undoped (Sr, Ca)CuO₂ Thin Films," Japanese Applied Physics Society Workshop on Infinite Layer Materials, ISTEK, Tokyo, Japan 1993.
68. "Transport Properties of Ultrathin YBa₂Cu₃O_{7-d} Layers: Evidence For Two-Dimensional Vortex Fluctuations," Adriatico Research Conference on Vortex Fluctuations in Superconductors, Trieste, Italy 1993.
69. "Laser Ablation Film Growth of High Temperature Superconductors," 1993 WATtec Conference, Knoxville, TN 1993.
70. "Growth and Properties of Ultrathin YBa₂Cu₃O_{7-d} Layers," Sixth Annual Conference on Superconductivity and Applications, Buffalo, NY 1992.
71. "Properties of Oxide-Based Superconducting Superlattices," Fifth Annual Conference on Superconductivity and Applications, Buffalo, NY 1991.
72. "Epitaxial Growth of Oxide Superconductor Thin Films and Superlattices," Scanning Microscopy / 1991, Bethesda, MD 1991.
73. "High-T_c Superconductivity and Hole-Filling in R-123 Superlattices and Thin Films," March Meeting of The American Physical Society, Cincinnati, OH 1991.
74. "Superconductivity in Epitaxial Layers of High T_c Materials," Gordon Conference on Superconductivity, Ventura, CA 1991.

Contributed Presentations (First Author)

1. "P-Type ZnO Thin Films via Phosphorus Doping," 2008 SPIE Photonics West San Jose, CA, January 2008
2. "P-type doping and electroluminescence in ZnO thin films," 2007 March Meeting of the American Physical Society, Denver, CO, March 2007
3. "Copper and Ni-Alloy Substrates," AFOSR HTS Coated Conductor Review Meeting, St. Petersburg, FL, January 22-24, 2003.
4. "Ferromagnetism in Mn-implanted Single Crystal Oxides," American Vacuum Society 49th International Meeting, Denver, CO, November 3-8, 2002
5. "Doping For Charge, Bandgap, and Spin In ZnO Nanorods And Thin Films," Materials Research Society Workshop On ZnO, Dayton, OH, October 23-25, 2002.

6. "Epitaxial growth and properties of CeO₂ on (001) InP," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
7. "Luminescent properties of Li-doped ZnGa₂O₄ thin films," 7th International Workshop on Oxide Electronics, Les Diablerets, Switzerland, October 2000.
8. "Nanostructured thin-film oxides," D. P. Norton, Meta- Materials Workshop, Greenbelt, MD, September, 2000.
9. "Ferromagnetic wide bandgap semiconductors for quantum computing," Quantum Information Science and Technology Workshop, Greenbelt, MD, October, 2000.
10. "Epitaxy of oxides on dissimilar substrates using pulsed-laser deposition," Spring Meeting of the Materials Research Society, San Francisco, CA, April 2000.
11. "Epitaxial Electronic Oxides on Semiconductors Using Pulsed-Laser Deposition," Symp on Substrate Engineering-Paving the Way to Epitaxy, 1999 Fall Meeting of the Materials Research Society, Boston, MA (1999)
12. "Investigation of Oxide Film Growth on Biaxially-Textured Metals Using Reflection High Energy Electron Diffraction," Symp. on Superconducting Materials-Properties, Crystal Chemistry and Processing, Fall Meeting of the Materials Research Society, Boston, MA 1999.
13. "Enhanced Luminescence in Epitaxial Oxide Thin Film Phosphors," 5th International Display Phosphors Conference, San Diego, CA 1999.
14. "Epitaxial Growth and Luminescent Properties of Mn²⁺-Activated ZnGa₂O₄ Films", 5th International Workshop on Oxide Electronics, College Park, MD 1998.
15. "Plume-Induced Stress and Texture in Pulsed-Laser Deposited CeO₂ Films", Symp. on Film Growth and Processing Using Hyperthermal Beams, 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
16. "Epitaxial Growth of Oxide Thin Films on (001) Metal Surfaces Using Pulsed-Laser Deposition," Spring Meeting of the Materials Research Society, San Francisco, CA 1997.
17. "Low-Cost Metal Substrates for Films with Aligned Grain Structures," Future generation photovoltaic technologies, Denver; CO, March 1997.
18. "Effect of energetic ions on cerium oxide films deposited by pulsed-laser deposition," March Meeting of the American Physical Society, Kansas City, MO, March 1997.
19. "Epitaxial Growth of Metal Fluoride Thin Films by Pulsed-Laser Deposition," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
20. "Superconductivity in SrCuO₂/BaCuO₂ Superlattices: Formation of Artificially-Layered Superconducting Materials," Fall Meeting of the Materials Research Society, Boston, MA 1994.
21. "Artificially-Layered SrCuO₂-Based Materials Grown by Pulsed-Laser Deposition, World Congress on Superconductivity, Orlando, FL 1994.
22. "Transport and Structural Properties of Trivalent Cation and Defect-Doped SrCuO₂ Thin Films Grown by Pulsed-Laser Deposition," Fall Meeting of the Materials Research Society, Boston, MA 1993.
23. "Structural and Transport Properties of Ca_{1-x}Sr_xCuO₂ Thin Films Grown by Pulsed Laser Deposition," March Meeting of The American Physical Society, Seattle, WA 1993.
24. "Pulsed Laser Deposition of Metastable Ca_{1-x}Sr_xCuO₂ Thin Films," Second International Conference on Laser Ablation, Knoxville, TN 1993.
25. "Epitaxial Growth and Properties of Ca_{1-x}Sr_xCuO₂ Thin Films Grown by Pulsed-Laser Deposition," Fall Meeting of the Materials Research Society, Boston, MA 1992.
26. "Superconductivity and Reduced Dimensionality in Ultrathin YBa₂Cu₃O_{7-d} Films and YBa₂Cu₃O_{7-d} Based Superlattice Structures," Applied Superconductivity Conference, Chicago, Illinois 1992.
27. "Epitaxial growth and properties of Ba_{1-x}K_xBiO₃ thin films grown by pulsed laser deposition," Fall Meeting of the Materials Research Society, Boston, MA 1991.

28. "Hole Filling and Effects of Reduced Dimensionality in Pulsed-Laser Ablated High- T_c Superlattice Structures," Workshop on Laser Ablation, Oak Ridge, TN 1991.
29. "Pulsed Laser Deposition of YBCO-Based Superconducting Superlattices," 11th Annual Symposium of the Tennessee Valley Chapter of the American Vacuum Society, Oak Ridge, TN 1991.
30. "Superconductivity, Hole-Doping, and Hole-Filling in $YBa_2Cu_3O_{7-d}/(Y_{1-x}Ca_y)Pr_xBa_2Cu_3O_{7-d}$ Superlattices," Fall Meeting of the Materials Research Society, Boston, MA 1990.
31. "Superconductivity in Single Unit Cell $YBa_2Cu_3O_{7-x}$ Layers in $YBa_2Cu_3O_{7-x}/PrBa_2Cu_3O_{7-x}$ Superlattices," Conference on the Science and Technology of Thin Film Superconductors, Denver, CO 1990.
32. " $YBa_2Cu_3O_{7-x}$ Thin Film Growth on Single Crystal and Polycrystalline Ytria-Stabilized Zirconia," Conference on the Science and Technology of Thin-Film Superconductors, Denver, CO 1990.
33. "Mass Spectroscopic Study of Photolytically-Driven Deposition of Gallium Arsenide," IEEE Southeastcon 89, Columbia, SC 1989.
34. "Excimer Laser and Hg-Xe Arc Lamp Driven Low Temperature Deposition of Gallium Arsenide," Conference on Lasers and Electro-Optics, Baltimore, MD 1989.
35. "Photochemical vapor deposition of gallium arsenide," SPIE-Advanced Processing of Semiconductor Devices II, Newport Beach; CA, March 1988.
36. "Photochemical Vapor Deposition of GaAs for Photovoltaics," Third International Photovoltaic Science and Engineering Conference, Tokyo, Japan 1987.
37. "On Shuffling of 2-D Data," Twentieth Conference on Information Sciences and Systems, Princeton, NJ 1986.
38. "An Efficient Implementation of the Aryabhata Algorithm," Twentieth Conference on Information Sciences and Systems, Princeton, NJ 1986.

Presentations by Students / Post-Doctoral Associates in Norton Group (student/post-doc listed)

1. Cianfrone J, "Structural, magnetic, and electronic properties of $ZnCo_2O_4$ thin films grown via pulsed laser deposition, 2008 TMS Electronic Materials Conference, Santa Barbara, CA, June 2008
2. Callendar C, "Ferroelectric and magnetic properties of epitaxial $BiFeO_3 / BaFeO_{3-x}$ heterostructures," 2008 Spring Meeting of the Materials Research Society, San Francisco, CA, March 2008
3. Tien LC "Pulsed laser deposition of metal oxide nanowires," 2008 Spring Meeting of the Materials Research Society, San Francisco, CA, March 2008
4. Kim DH, "The effect of structural and chemical perturbations in multiferroic $BiFeO_3$ epitaxial films," 2008 March Meeting of the American Physical Society, New Orleans, LA, March 2008
5. Sadik P, "Characterization of $CuCrO_2/CuSc_{1-x}Mg_xO_2$ heterostructures grown by pulsed laser deposition," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2008
6. Cianfrone J, "Structural, magnetic, and electronic properties of $ZnCo_2O_4$ thin films grown via pulsed laser deposition," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2008
7. Kim HS "Electrical and Optical Properties of $ZnMgO:P$ Films grown by Pulsed Laser Deposition," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007
8. Tien LC, "Catalyst-free growth of vertically well-aligned ZnO nanowires," 54th Annual Meeting of the American Vacuum Society, San Francisco, CA, October 2007
9. Callendar CJ, "Properties of $BaFeO_3$ -Based Thin Films and Superlattices," 2007 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2007
10. Sadik P, "Examination Of $CuCr_{1-x}Mg_xO_2$ Thin Film Delafossites Grown By Pulsed Laser Deposition," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2007
11. Ivill M, "Magnetic And Magneto-Transport Properties In ZnO Films Heavily Doped With Cobalt," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2007

12. Tien LC, "Self-Catalytic Growth Of Well-Aligned ZnO Nanorods By High Pressure Assisted Pulsed Laser Deposition," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2007
13. Kim HS, "Carrier Type Conversion In Post Annealed ZnO:P Thin Films," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2007
14. Callendar C, "Ferromagnetic Properties Of Epitaxial BaFeO₃ Films," Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2007
15. Kim HS, "Investigation of carrier type conversion of post annealed ZnO:P thin films as a function of the substrate temperature," TMS 2007 Annual Meeting & Exhibition Orlando, FL, February 2007
16. Leu LC, "Properties of Ge/HfN_x as a Diffusion Barrier for Cu Metallization," TMS 2007 Annual Meeting & Exhibition Orlando, FL, February 2007
17. Sadik P, "Examination of Thiol Adsorption on Zn-Terminated and O-Terminated ZnO Substrates," TMS 2007 Annual Meeting & Exhibition Orlando, FL, February 2007
18. Tien LC, "Highly Selective Hydrogen Sensing with Pt-functionalized ZnO Thin Films and Nanorods," 2006 Fall Meeting of the Materials Research Society, Boston, MA, November 2006
19. Ivill M, "Magnetic Properties and Observation of Anomalous Hall Effect in Cobalt-Doped ZnO," TMS Electronic Materials Conference, State College, PA, June 2006
20. Leu LC, "Investigation of W-Ge-N Deposited on Ge as a Diffusion Barrier for Cu Metallization", 2006 Spring MRS Meeting, San Francisco, CA, April 2006.
21. Sadik P, "Examination Of Thiol Adsorption On Zn-Terminated And O-Terminated Substrates" Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
22. Callendar C, "Properties of (Ba_xSr_{1-x})FeO₃ Thin Films and Multilayers" Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
23. Tien LC, "Highly Selective Hydrogen Sensing at Room Temperature with Platinum-Functionalized ZnO Thin Films and Nanorods" Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
24. Ivill M, "Magnetic Properties and Observation of Anomalous Hall Effect in Cobalt-Doped ZnO", Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
25. Rawal S, "Properties of W-Ge-N Deposited on Ge as a Diffusion Barrier for Cu", Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
26. Tien LC, "Enhanced Hydrogen Sensing at Room Temperature by Pd-Functionalized ZnO Nanorods" 2005 Fall MRS Meeting, Boston, Massachusetts, December 2005
27. Callendar C, "Properties of (Ba_x-Sr_{1-x})FeO₃ thin films and multilayers" Southeast Section of the American Physical Society Meeting, Gainesville, FL, November 2005
28. Tien LC, "Hydrogen-Selective Sensing at Room Temperature with Pt-Coated ZnO nanorods" Southeast Section of the American Physical Society Meeting, Gainesville, FL, November 2005
29. Rawal S, "Properties of W-Ge-N as a diffusion barrier material for Cu" Southeast Section of the American Physical Society Meeting, Gainesville, FL, November 2005
30. Kim HS, "Synthesis and characterization of P-doped ZnO and (Zn,Mg)O thin films for optoelectronic applications" Southeast Section of the American Physical Society Meeting, Gainesville, FL, November 2005
31. Erie JM, "Electrical, optical and structural properties of Arsenic-doped (Zn,Mg)O films" 52nd American Vacuum Society Meeting, Boston, MA, November 2005
32. Kim HS, "Fabrication of ZnO-based P-N junction diodes", 2005 Annual Joint Symposium of Florida Chapter of the AVS and Florida Society for Microscopy, Florida AVS, Orlando, FL, March 2005
33. Li YJ, "Realization of phosphorus-doped p-type (Zn,Mg)O thin films via pulsed laser deposition", 2005 Electronic Materials Conference (EMC), TMS, Santa Barbara, CA, June 2005
34. Kim KH, "(La,Sr)TiO₃ as a Conductive Buffer for High Temperature Superconducting Coated Conductors", Applied Superconductivity Conference 2004, Jacksonville, FL, October 2004

35. Heo YW, "Nanodevices using Single ZnO Nanowire", 2004 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2004
36. Ivill M, "The Dependence Of Ferromagnetism On Sn Concentration in ZnMnO:Sn Epitaxial Films", 2004 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2004
37. Sigman J, "Dielectric Response of Asymmetric KNbO₃/KTaO₃ Superlattices", 2003 Annual Meeting of the American Vacuum Society, AVS, Baltimore, MD, November 2003
38. Heo YW, "Properties of p-Doped ZnMgO Thin Films", 2003 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2003
39. Kwon YW, "Transparent Transistors Based On Semiconducting Oxides", 2003 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2003
40. Sigman J, "Dielectric Response of K(Ta,Nb)O₃ Thin Films", 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
41. Heo YW, "Growth and Microstructure of Cored (Zn_{1-x}Mg_x)O Nanorods," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
42. Ivill M, "Ferromagnetism In Mn- And Sn-Codoped ZnO Films Grown By Pulsed Laser Deposition," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
43. Jeong BS, "Transition metal doped TiO₂ thin films grown by reactive sputtering deposition," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
44. Jones M, "Leakage Current Behavior for HfO₂ Thin Films," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
45. Kwon YW, "Electric Field Modulation of ZnO Film Conductance in ZnO-Based FET Structures," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
46. Li Y, "Transparent ZnO-Based FET Structures for Displays," 202nd ECS Meeting, The Electrochemical Society, Orlando, Florida, October 2003
47. Heo YW, "Zn_{1-x}Mg_xO Nanorods Via Molecular Beam Epitaxy," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
48. Ivill M, "Ferromagnetism In TM-Doped Semiconducting Oxides," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
49. Bae HJ, "Treatment Of (100) KTaO₃ For Atomically-Flat Surfaces," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
50. Heo YW, "Optical Properties of Zn_{1-x}Mg_xO Nanorods Via Molecular Beam Epitaxy," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
51. Ivill M, "Ferromagnetism In Mn-Doped Cu₂O Semiconducting Thin Films Grown By Pulsed-Laser Deposition," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
52. Jeong BS, "Conductivity In Transparent Anatase TiO₂ Films Epitaxially Grown By Reactive Sputtering Deposition," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
53. Kwon YW, "Electrical Properties Of CaHfO₃ And HfO₂ For Gate Dielectrics," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
54. Kim KH, "(La,Sr)TiO₃ Conductive Buffer Layers on Biaxially Textured Ni for Coated Conductors," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
55. Heo YW, "Deterministic synthesis of ZnO nanorods," 2002 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2002.
56. Sigman J, "Evidence for antiferroelectric behavior in KNbO₃/KTaO₃ superlattices," 2002 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2002.
57. Heo YW, "ZnO nanorods growth with molecular beam epitaxy," Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002
58. Kwon YW, "Deposition of CaHfO₃ thin films using pulsed-laser deposition," Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002.

60. Heo YW, "Epitaxial growth of zinc oxide thin films on α -Al₂O₃ by molecular beam epitaxy," Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002
61. Sigman J, "Evidence for antiferroelectric behavior in KNbO₃ / KTaO₃ superlattices," Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002
62. Kim KH, "LaTiO₃ conductive buffer layers on biaxially textured Ni for coated conductors" Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002.
63. Jeong BS, "Epitaxial growth of anatase TiO₂ films by reactive sputter deposition," Florida Chapter of the American Vacuum Society, AVS-FSM Joint Symposium, Orlando, FL, March 2002.
64. Kim KH, "LaTiO₃ conductive buffer layers on biaxially textured Cu for coated conductors," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
65. Patel M, "Reactive sputter deposition of epitaxial CeO₂ on (001) Ge," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
66. Sigman J, "Temperature-dependent dielectric response and tunability of KTaO₃/KNbO₃ superlattices," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
67. Lee YE, "Epitaxial oxide thin film phosphors for low voltage FED applications," Spring Meeting of the Materials Research Society, San Francisco, CA, April 2000.
68. Lee YE, "ZnGa₂O₄ Thin-Film Phosphors Grown by Pulsed Laser Ablation," Spring Meeting of the Materials Research Society, San Francisco, CA, April 1999.
69. Lee YE, "Growth and characterization of ZnGa₂O₄ :Mn thin film phosphors using pulsed laser deposition," 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
70. Cantoni C, "Phase stability for the in-situ growth of Nd_{1+x}Ba_{2-x}Cu₃O₇ films using pulsed-laser deposition," 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
71. Park C, "Pulsed laser deposition of YBCO film and oxide buffer layers on 1cmx10cm rolling assisted biaxially textured substrates," 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
72. Park C, "Long Length Fabrication of YBCO on Rolling Assisted Biaxially Textured Substrates (RABiTS) Using Pulsed Laser Deposition," IEEE Applied Superconductivity Conference, Palm Desert; CA, September 1998
73. Park C, "The Effect Of Bend Strain On The Critical Current Of YBCO Films Deposited On Biaxially Oriented Metallic Substrates" Fall Meeting of the Materials Research Society, Boston, MA 1997.

Other Contributed Presentations as Co-Author

1. "Indium Zinc Oxide Thin Films Deposited by Sputtering at Room Temperature," 213th Meeting of the Electrochemical Society, Phoenix, AR, May 2008
2. "High Room Temperature Deposited Enhancement Mode and Depletion Mode Indium Zinc Oxide Thin Film Transistors," 213th Meeting of the Electrochemical Society, Phoenix, AR, May 2008
3. "Demonstration of Hydrogen Effects on ZnO LEDs in Current-Voltage and Electroluminescence Characteristics," 213th Meeting of the Electrochemical Society, Phoenix, AR, May 2008
4. "Dielectric response in potassium tantalite/potassium niobate multilayers," 2008 March Meeting of the American Physical Society, New Orleans, LA, March 2008
5. "GaN and ZnO-Based Nanowire Sensors for Bio and Chemical Detection," TMS 2008 Annual Meeting & Exhibition , New Orleans, LA, March 2008
6. "Functional Wide Bandgap Semiconductor Nanowire Devices," TMS 2008 Annual Meeting & Exhibition , New Orleans, LA, March 2008
7. "ZnO for Spintronics: Some Critical Issues," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007
8. "Origin of the Near-Band-Edge Emission in ZnCdO Alloys," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007

9. "Indium Zinc Oxide Transparent Thin Film Transistors with MgO Gate Oxide," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007
10. "Room Temperature Deposited Indium Zinc Oxide Thin-Film Transistors," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007
11. "Indium Zinc Oxide Thin Films Deposited by Sputtering at Room Temperature," 2007 Fall Meeting of the Materials Research Society, Boston, MA, November 2007
12. "CdZnO/MgZnO multilayer structures for photonic applications: growth and devices," 2007 TMS Electronic Materials Conference, South Bend, Indiana, June 2007
13. "Wide Bandgap Semiconductor Nanowires for Sensing Applications," 211th Meeting of the Electrochemical Society, Chicago, IL, May 2007
14. "Wet Chemical Etching of Wide Bandgap Semiconductors- GaN, ZnO and SiC, 211th Meeting of the Electrochemical Society, Chicago, IL, May 2007
15. "High Density Inductively Coupled Plasma Etching of Zinc-Oxide and Indium-Zinc Oxide," 211th Meeting of the Electrochemical Society, Chicago, IL, May 2007
16. "Thermally Stable Novel Metal Contacts on Bulk, Single-Crystal n-type ZnO," 211th Meeting of the Electrochemical Society, Chicago, IL, May 2007
17. "Ir/Au ohmic contacts on bulk, single crystal n-type ZnO," 2007 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2007
18. "Ferroelectric phase transition study of coupling KTN perovskites oxides by scanning microwave microscope," 2007 March Meeting of the American Physical Society, Denver, CO, March 2007
19. "Effect of Cryogenic Temperature Deposition of Various Metal Contacts to Bulk, Single-Crystal n-type ZnO," 2006 Fall Meeting of the Materials Research Society, Boston, MA, November 2006
20. "High-density Plasma Etching of Zinc-Oxide and Indium-Zinc-Oxide in Cl₂/Ar and CH₄/H₂/Ar Chemistries," 2006 Fall Meeting of the Materials Research Society, Boston, MA, November 2006
21. "Electroluminescence from ZnO Nanowire/Polymer Composite p-n Junction," 53rd Annual Meeting of the American Vacuum Society, San Francisco, CA, November 2006
22. "X-ray Excited Optical Luminescence Studies of ZnO Nanowires and ZnO/MgxZn(1-x)O Core-Shell Nanowires," 53rd Annual Meeting of the American Vacuum Society, San Francisco, CA, November 2006
23. "Changes in Electrical Characteristics of p-Type Zinc Oxide Thin Films Due to Light and Gas Ambient," TMS Electronic Materials Conference, State College, PA, June 2006
24. "Determination Of MgO/GaN And Zn_{0.95}Cd_{0.05}/ZnO Heterojunction Band Offsets By X-Ray Photoelectron Spectroscopy" Florida Chapter American Vacuum Society Meeting, Orlando, FL, March 2006
25. "Simulation of ZnO-based UV and Visible Light-Emitting Diode Structures" Southeast Section of the American Physical Society Meeting, Gainesville, FL, November 2005
26. "Improved Pt /Au and W/Pt/Au Schottky Contacts on n-type ZnO Using Ozone Cleaning", 2005 Annual Joint Symposium of Florida Chapter of the AVS and Florida Society for Microscopy, Florida AVS, Orlando, FL, March 2005
27. "Thermal Stability of Tungsten-Based Schottky Contacts to N-Type ZnO", 207nd ECS Meeting, The Electrochemical Society, Quebec City, Canada, May 2005
28. "Fabrication of ZnMgO:P/ZnO p-n Junctions on ZnO Substrates", 2005 Electronic Materials Conference (EMC), TMS, Santa Barbara, CA, June 2005
29. "Effect of Ozone Cleaning on Pt /Au and W/Pt/Au Schottky Contacts to n-type ZnO", 27th Int. Conf. Physics of Semiconductors, Flagstaff, AZ, July 2004
30. "Carrier Concentration Dependence of Ti/Al/P+/Au Ohmic Contacts to p-doped ZnO Thin Films", 2004 MRS Spring Meeting, Materials Research Society, San Francisco, California, April 2004
31. "Sensitivity of Pt/ZnO Schottky Diode Characteristics to Hydrogen", 203rd Meeting of ECS, The Electrochemical Society, San Antonio, Texas, May 2004
32. "Ferromagnetism in Mn- and Co-implanted ZnO Nanorods", IEEE Nano-2003, IEEE, San Francisco, August 2003

33. "Ion Implantation for Creating Room Temperature Ferromagnetism in Wide Bandgap Semiconductors", ISCS-2003, IEEE, La Jolla, California, August 2003
34. "Annealing Temperature Dependence of Contact Resistance and Stability for Ti/Al/Pt/Au Ohmic Contacts from Bulk n-ZnO", ISCS-2003, IEEE, La Jolla, California, August 2003
35. "Thermal Stability and Magnetic Properties of Mn- and Co-Implanted ZnO Nanorods", 11th Intl. Cong. On II-VI Compounds, IEEE, Niagara Fall, NY, September 2003
36. "Modification of MBE Grown ZnO Nanorods with Mn and Co Effects on Microstructure and Properties", 2003 Fall MRS Meeting, Materials Research Society, Boston, Massachusetts, December 2003
37. "Near Infrared Display Materials," SPIE-The International Society for Optical Engineering Conference on Cockpit Displays, Orlando, FL, April 21-25, 2003
38. "Effects Of Hydrogen And Dry Etching On ZnO," 2002 Fall Meeting of the Materials Research Society, Boston, MA, December 1-5, 2002
39. "Pulsed Laser Deposited Zn₂GeO₄ Thin Films for Field Emission Displays," American Vacuum Society 49th International Meeting, Denver, CO, November 3-8, 2002
40. "Hydrogen Incorporation, Diffusivity and Evolution in Bulk ZnO," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
41. "ICP Dry Etching of ZnO and Effects of Hydrogen," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
42. "Magnetic Properties of Co- and Mn-Implanted BaTiO₃, SrTiO₃ and KTaO₃," 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
43. "Ferromagnetism in Co- and Mn-Doped ZnO, 9th International Workshop on Oxide Electronics, St. Pete Beach, FL, October 20-23, 2002
44. "A Method for Improving Nucleation of Thick YBCO Films in the Ex-situ Process," Applied Superconductivity Conference, Houston, TX, August 2002.
45. "Orientation and strain mapping in RABiTS using X-ray microbeam diffraction," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
46. "Effect of sulfur surface structure on nucleation of oxide seed layers on textured metals for coated conductor application," 2001 Fall Meeting of the Materials Research Society, Boston, MA, November 2001.
47. "Submicron-Resolution Measurement of Texture and Strain in Oxide Films Using X-ray Microdiffraction.," The American Ceramic Society 103rd Annual Meeting, Indianapolis, IN American Ceramic Society, April 2001.
48. "X-Ray Microbeam Mapping of Local Lattice Orientations and Strains in Oxide Films," March 2001 Meeting of the American Physical Society, Seattle, WA USA March 2001.
49. "X-ray microbeam mapping of local lattice orientation and strains in oxide films," 2001 March Meeting of the American Physical Society, Seattle, WA, March, 2001.
50. "Superconducting MgB₂ films with T_c > 20 K by Pulsed Laser Deposition," March Meeting of the American Physical Society, Seattle, WA, March 2001.
51. "Effects of Surface Chemistry and Structure on Buffer Layer Epitaxy," ISTEC/MRS HTS Conductors, Processing and Applications, Honolulu, HI USA, June 2001
52. "Conductive buffer layers and overlayers for the thermal stability of coated conductors," Applied Superconductivity Conference, Virginia Beach, VA, September 2000.
53. "Comparison between the effects of substrate surface conditions and ion irradiation defects on flux-pinning properties of YBCO epitaxial films," Fall Meeting of the Materials Research Society, Boston, MA November 2000.
54. "Submicron-Resolution Texture and Strain Determination Using X-Ray Microbeams," Workshop on Texture in Electronic Applications, Gaithersburg, MD October 2000.
55. "Recent progress in the fabrication of High-J_c tapes by epitaxial deposition of YBCO on RABiTS," International Symp. On Superconductivity, Tokyo, Japan, October 2000.

56. "Materials Science Using Submicron-Resolution Polychromatic X-Ray Diffraction," Tenth Users Meeting for the Advanced Photon Source, Argonne, IL May 2000.
57. "Crystalline oxides as gate dielectrics for MOSFETs," Spring Meeting of the Materials Research Society, San Francisco, CA, April 2000.
58. "High- J_c YBCO Conductors Fabricated By Epitaxial Deposition Of YBCO On Rolling Assisted Biaxially Textured Substrates (RABiTS)," Fall Meeting of the Materials Research Society, Boston, MA (1999)
59. "Microstructure In YBCO Coated Conductors," Fall Meeting of the Materials Research Society, Boston, MA 1999.
60. "Epitaxial Growth Of Oxide Films On Textured Ni Substrates Studied By X-Ray Microbeam Diffraction," Fall Meeting of the Materials Research Society, Boston, MA 1999.
61. "Reel-To-Reel Dip-Coating Unit For Fabricating Long RABiTS For HTS Coated Conductors," Fall Meeting of the Materials Research Society, Boston, MA 1999.
62. "Growth Regimes And Nucleation Of Thick High- J_c YBCO Films On Flexible Metallic Substrates," Fall Meeting of the Materials Research Society, Boston, MA 1999.
63. "Effects Of Pulsed-Laser Deposition Regimes On Flux-Pinning Properties Of YBCO Thin Films," Fall Meeting of the Materials Research Society, Boston, MA 1999.
64. "Epitaxial Growth Of Conductive Buffer Layers For The Development Of Coated Conductors," Fall Meeting of the Materials Research Society, Boston, MA 1999.
65. "Comparison Of Microstructure In YBCO Films Deposited On Alternative Oxide Buffer Layers On RABiTS," Fall Meeting of the Materials Research Society, Boston, MA 1999.
66. "Demonstration of High Current Density YBCO Coated Conductors On Re_2O_3 Buffered Ni Substrates with Two New Alternative Architectures," Advances in Cryogenic Engineering 1999, Cryogenic Engineering and International Cryogenic Materials Conf., Montreal, Canada, July 1999.
67. "High J_c YBCO conductors fabricated by epitaxial deposition of YBCO on strengthened, nonmagnetic rolling assisted biaxially textured substrates," Advances in Cryogenic Engineering 1999, Cryogenic Engineering and International Cryogenic Materials Conf., Montreal, Canada, July 1999.
68. "X-Ray Microbeam Investigation Of Epitaxial Oxide Films On Textured Metal Substrates." Spring Meeting of the Materials Research Society, San Francisco, CA, April 1999.
69. "Power loss of AC transport current flow in superconductive films, March Meeting of the American Physical Society, Atlanta, GA, 1999.
70. "Crystallographic Tilting of Oxide Films on Textured Metal Substrates Investigated by X-Ray Microbeams," March Meeting of the American Physical Society, Atlanta, GA, 1999
71. "Barrier to vortex entry raises both critical current and ac loss in superconductive film," 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
72. "Important effect of YBCO microstructural homogeneity on electrical connectivity of coated conductors fabricated by the RABiTS approach," 1998 Fall Meeting of the Materials Research Society, Boston, MA 1998.
73. "Investigating the Atomic Scale Superconducting Properties of Grain Boundaries in High-T(Sub c) Superconductors," 14th Int. Conf. on Electron Microscopy, Cancun, Mexico, August, 1998.
74. "Fabrication of High Current $\text{YBa}_2\text{Cu}_3\text{O}_{7-y}$ Coated Conductors Using Rolling Assisted Biaxially Textured Substrates," 9th CIMTEC-World Forum on New Materials, 6th Symp. on Science and Engineering of HTC Superconductivity, Florence, Italy, June 1998.
75. "Depositions of epitaxial noble metal buffer layers on textured Ni tapes by sputtering for the fabrication of flexible high- J_c HTS wires," 1998 Spring Meeting of the Materials Research Society, San Francisco, CA 1998.
76. "Electrical connectivity and microstructure in YBCO films fabricated on RABiTS," March Meeting of the American Physical Society, Los Angeles, CA, March 1998.
77. "Effect of layer thickness on the ferroelectric transition in epitaxial $\text{KTaO}_3/\text{KNbO}_3$ multilayers," March Meeting of the American Physical Society, Los Angeles, CA, March 1998.

78. "Superconducting transport properties of single grain boundaries in large magnetic fields: Correlation with atomic structure," March Meeting of the American Physical Society, Los Angeles, CA, March 1998.
79. "Comparison of ac transport current flow in superconductive films," March Meeting of the American Physical Society, Los Angeles, CA, March 1998.
80. "Investigation of the Local Superconducting Properties at Grain Boundaries in High-T(Sub c) Superconductors," Microscopy and Microanalysis '98, Atlanta, GA, July 1998.
81. "Superconducting Properties Of HTS Films On Textured Metallic Tape Substrates: Prospects For A New Generation Of Wires," Fall Meeting of the Materials Research Society, Boston, MA 1997.
82. "High-Resolution TEM/AEM Characterization Of Epitaxial Oxide Multilayers Fabricated By Laser Ablation On Biaxially Textured Ni," Fall Meeting of the Materials Research Society, Boston, MA 1997.
83. "Growth Of Biaxially Textured Buffer Layers On Rolled-Ni Substrates For High Current YBaCuO Conductors," Fall Meeting of the Materials Research Society, Boston, MA 1997.
84. "Towards Long Lengths Of High Critical Current Density YBaCuO Tapes," Fall Meeting of the Materials Research Society, Boston, MA 1997.
85. "Alternating Current Losses In YBaCuO and TlBaCaCuO Films," Fall Meeting of the Materials Research Society, Boston, MA 1997.
86. "Stability Of Epitaxially Grown Superconducting Films On Biaxially Textured Metal Substrates," Fall Meeting of the Materials Research Society, Boston, MA 1997.
87. "Correlation of Transport Properties with Grain Boundary Atomic Structure in High-T(Sub c) Superconducting Films and Tapes," Advances in Superconductivity X, Proc. 10th Int. Symp. on Superconductivity (ISS '97), Gifu, Japan, October 1997.
88. "Superconducting transport properties of High- J_c biaxially aligned YBa₂Cu₃O₇ deposit on metallic tape substrates," ISTE/MRS International Workshop on Superconductivity, Big Island, Hawaii 1997.
89. "High critical current density tapes by epitaxial deposition of superconducting thick films on biaxially textured metal substrates," 1997 Annual Meeting of the TMS, Orlando, FL 1997.
90. "Properties of CoSb₃ films grown by pulsed laser deposition," Spring Meeting of the Materials Research Society, San Francisco, CA 1997.
91. "Superconducting properties of High- J_c biaxially aligned YBa₂Cu₃O₇ thick films on metallic tape substrates," Spring Meeting of the Materials Research Society, San Francisco, CA 1997.
92. "Superconducting properties of High J_c biaxially textured YBa₂Cu₃O₇ thin films of metallic tape substrates," March Meeting of the American Physical Society, Kansas City, MO, March 1997.
93. "Fabrication and Properties of High- J_c , Biaxially Aligned YBa₂Cu₃O_{7- δ} Thick Films on Metallic Tape Substrates," International workshop - Critical currents in superconductors for practical applications, Xian; China, March 1997.
94. "Low Cost, Single Crystal-like Substrates for Practical, High Efficiency Solar Cells," Conference on Future Generation Photovoltaic Technologies, Denver, CO, March 1997.
95. "Superconducting Transport Properties of High- J_c Biaxially Aligned YBa₂Cu₃O_{7- δ} Deposits on Metallic Tape Substrates," International Workshop On Superconductivity, Big Island, Hawaii, June 1997.
96. "Pulsed laser deposition of Sr₂Cu_{1+x}O_y(CO₃)_{1-x} infinite layer oxycarbonate films," March Meeting of the American Physical Society, March 1997.
97. "Biaxially oriented metallic tape substrates for high-temperature superconductors," International Conference on Low Temperature Physics; 21st -- 1996 Aug : Prague, Czechoslovakia, August 1996.
98. "Fabrication of High Critical Current Density Superconducting Tapes by Epitaxial Deposition of YBCO Thick Films on Biaxially, Textured Metal Substrates," Advances in superconductivity IX, Sapporo; Japan, October 1996.

99. "Development of Biaxially Textured Buffer Layers on Rolled-Ni Substrates for High Current $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Coated Conductors," Advances in superconductivity IX, Sapporo; Japan, October 1996.
100. "Fabrication of biaxially textured superconductors using the RABiTS process," Spring Meeting of the Materials Research Society, San Francisco, CA 1996.
101. "Superconducting transport properties of high- J_c $\text{YBa}_2\text{Cu}_3\text{O}_7$ thick films deposited on biaxially oriented metallic substrates," Fall Meeting of the Materials Research Society, Boston, MA 1996.
102. "The atomic origins of reduced critical currents at [001] tilt grain boundaries in YBCO thin films," Fall Meeting of the Materials Research Society, Boston, MA 1996.
103. "Toward the atomic level engineering of grain boundaries in ceramic superconductors," Fall Meeting of the Materials Research Society, Boston, MA 1996.
104. "Defect Formation and Carrier Doping in Epitaxial Films of the Infinite Layer Compound," vol.2697, Oxide Superconductor Physics and Nano-Engineering II, Soc. Photo-Opt. Instrum. Eng. Photonics West '96 Symp., San Jose, CA, Jan. ,1996.
105. "Sub-coherence length determination of the effects of interface structure on hole depletion in high-temperature superconductors," March Meeting of the American Physical Society, March 1994.
106. "Pulsed Laser Deposition of $\text{Sr}_2\text{Cu}_{1+x}\text{O}_y(\text{CO}_3)_{1-x}$ Infinite Layer-Oxycarbonate Films," March Meeting of the American Physical Society, St. Louis, MO, March 1996.
107. "Raman characterization of artificially layered superconducting SrCuO_2 - BaCuO_2 thin films," March Meeting of the American Physical Society, St. Louis, MO, March 1996.
108. " $\text{KTaO}_3/\text{KNbO}_3$ thin-film superlattices compared to $\text{KTa}_{1-x}\text{Nb}_x\text{O}_3$ solid-solution layers," March Meeting of the American Physical Society, St. Louis, MO, March 1996.
109. "Growth-induced columnar defects in $\text{YBa}_2\text{Cu}_3\text{O}_7$ grown on miscut LaAlO_3 ," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
110. "Fabrication of biaxially aligned polycrystalline HTSC using a new process," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
111. "Synthesis of HTS-Oxycarbonate epitaxial films," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
112. "Superlattices of epitaxial ferroelectric KNbO_3 and paraelectric KTaO_3 films," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
113. "Defect Formation and Carrier Doping in Epitaxial Films of the "Parent" Compound SrCuO_2 : Synthesis of Two Superconducting Descendants," Intl. Workshop on Superconductivity, Maui, HI, June,1995.
114. "Branches on a Family Tree: Superconductivity in Epitaxial Films of "First-in-Line" Descendants of the Parent Compound SrCuO_2 ," High Temperature Superconductor Workshop on Applications and New Materials, Univ. of Twente, Enschede, The Netherlands, May, 1995
115. "Sub-Coherence Length Determination of the Effects of Interface Structure on Hole Depletion in High-Temperature Superconductors," March Meeting of the American Physical Society, Pittsburgh, PA, March, 1994.
116. "Flux-Pinning Related Defects in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thin Films Grown on Miscut LaAlO_3 (001) Substrates," 52nd Annu. Meet. Microsc. Soc. Am., New Orleans, July, 1994.
117. "Epitaxial YBaCuO films on metal substrates and buffer layers," March Meeting of The American Physical Society, Seattle, WA 1993.
118. "Atomic resolution mapping of hole concentrations around $\text{YBa}_2\text{Cu}_3\text{O}_7$ grain boundaries," March Meeting of The American Physical Society, Seattle, WA 1993.
119. "Superconductive transport properties of heavy ion irradiated epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films," March Meeting of The American Physical Society, Seattle, WA 1993.
120. "Experimental Investigations of Superconductivity in Quasi-Two-Dimensional Epitaxial Copper Oxide Superlattices and Trilayers," TMS Symposium on the Synthesis and Processing of Electronic and Photonic Material, Denver, CO, February 1993.

121. "Transport-Current resistivity and inductive impedance of $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{PrBa}_2\text{Cu}_3\text{O}_7$ superlattice films," Applied Superconductivity Conference, Chicago, Illinois 1992.
122. "Epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films: Scanning tunneling microscope study of initial stages of growth, growth mechanism, and surface microstructure," Fall Meeting of the Materials Research Society, Boston, MA 1991.
123. "Evidence for doping effects in $\text{YBa}_2\text{Cu}_3\text{O}_7$ films processed at low oxygen pressures," Fall Meeting of the Materials Research Society, Boston, MA 1991.
124. "Effects of oxygen defects and thermal processing on flux pinning in High- J_c $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films," Fall Meeting of the Materials Research Society, Boston, MA 1991.
125. "Growth mechanisms of $\text{YBa}_2\text{Cu}_3\text{O}_7$ films and superlattices studied by Z-contrast STEM," Fall Meeting of the Materials Research Society, Boston, MA 1991.
126. "Evidence for K-T transition in $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{PrBa}_2\text{Cu}_3\text{O}_7$ superlattice films," Fall Meeting of the Materials Research Society, Boston, MA 1991.
127. "Superconducting Properties and Microstructure of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\Delta}/\text{PrBa}_2\text{Cu}_3\text{O}_{7-\Delta}$ Superlattices," Advances in Superconductivity IV, 4th Int. Symp. on Superconductivity (ISS' 91), Tokyo, Oct. 1991.
128. "Laser Ablation Synthesis and Properties of Epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_{7-\Delta}/\text{PrBa}_2\text{Cu}_3\text{O}_{7-\Delta}$ Superconducting Superlattices," Laser Ablation of Electronic Material, Basic Mechanism and Application, Meet. Eur. Mater. Res. Soc., Carcans-Maubuisson, France, Sept. 1991.
129. "Epitaxial copper oxide superconductor superlattices," 19th Rare Earth Research Conference, Lexington, Kentucky 1991.
130. "Localized conversion of epitaxial YBCO from c-perp to a-perp by ion implantation and low oxygen pressure annealing," March Meeting of The American Physical Society, Cincinnati, Ohio 1991.
131. "Aspects of thermally activated flux motion in $\text{YBa}_2\text{Cu}_3\text{O}_7$ epitaxial thin films," March Meeting of The American Physical Society, Cincinnati, Ohio 1991.
132. "Transport critical currents in granular-oriented $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films," March Meeting of The American Physical Society, Cincinnati, Ohio 1991.
133. "Effects of oxygen composition on critical currents and flux pinning in epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films," March Meeting of The American Physical Society, Cincinnati, Ohio 1991.
134. "Kosterlitz-Thouless-Like Behavior Over Extended Ranges of Temperature and Layer Thickness in Crystalline $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{PrBa}_2\text{Cu}_3\text{O}_{7-x}$ Superlattices," Univ. of Miami Workshop on Electronic Structure and Mechanisms for High Temperature Superconductivity, Coral Gables, FL, Jan. 1991.
135. "Growth and Transport Properties of Y-Ba-Cu-O/Pr-Ba-Cu-O Superlattices," Soc. Photo-Opt. Instrum. Eng. Conf. on Progress in High-Temperature Superconducting Transistors and Other Devices, Santa Clara, Oct. 1990.
136. "Orientation-Dependent Critical Currents in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Epitaxial Thin Films: Evidence for Intrinsic Flux Pinning," Conf. on Superconductivity and Its Applications, Buffalo, NY, Sept. 1990.
137. "In situ growth of high quality epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_7$ films at moderate substrate temperature and over large areas by pulsed laser ablation," Fall Meeting of the Materials Research Society, Boston, MA 1989.
138. "In situ growth of epitaxial superconducting $\text{YBa}_2\text{Cu}_3\text{O}_7$ films on insulating, semiconducting and ferroelectric KTaO_3 by pulsed laser ablation," Fall Meeting of the Materials Research Society, Boston, MA 1989.
139. "Epitaxial and superconducting properties of $\text{YBa}_2\text{Cu}_3\text{O}_7$ films on five perovskite substrates," Fall Meeting of the Materials Research Society, Boston, MA 1989.
140. "Atomic scale characterization of defects and interfaces by Z-contrast STEM," Fall Meeting of the Materials Research Society, Boston, MA 1989.

Research Funding at UF

Over \$6.4M external funding as lead PI in 11 years at UF

1. "Development of Materials and Fabrication of Nanoelectronic Devices and Sensors,"

- Office of Naval Research, (08/01/2009 - 07/31/2011), \$2,499,523 (5%), co-P.I.
2. "Acceptor doping and hole transport in ZnO films and heterostructures,"
National Science Foundation, (06/15/2008 - 05/31/2011), \$414,032 (100%), P.I.
3. "ZnO Nanowire Nanosensors for Biodetection and Identification,"
Center for NanoBio Sensors/State of Florida, (06/01/07-08/30/08), \$80,000 (100%), P.I.
4. "Center for Sensor Materials and Technologies,"
Office of Naval Research, (05/14/07-05/13/09), \$2,328,000 (60%), P.I.
5. "Low Dimensional K(Nb,Ta)O₃-(Ba,Sr)FeO₃ Thin Film Nanostructures,"
Army Research Office, (10/01/05-09/30/08), \$270,856 (100%), P.I.
6. "ZnO PN Junctions for Highly-Efficient, Low-Cost Light Emitting Diodes,"
Department of Energy, (01/01/05-12/31/07), \$914,537 (35%), P.I.
7. "Robust Self-Powered Wireless Hydrogen Sensor",
NASA, (10/01/04-09/30/06), \$70,000 (25%), co-P.I.
8. "H₂ Gas Sensors: GaN MOS-HEMTs and ZnO Schottky Diodes with Integrated On-Chip Heater",
NASA, (10/01/04-09/30/06), \$70,000 (25%), co-P.I.
9. "Novel Hydrogen Gas Sensors: ZnO Nanorod Hydrogen Gas Sensors",
NASA, (10/01/04-09/30/06), \$70,000 (25%), co-P.I.
10. "Transition Metal Doped ZnO for Spintronics,"
Air Force Office of Scientific Research, (8/01/03-06/30/06), \$450,000 (65%), P.I.
11. "Alternative Chemistries for Barrier Materials in Cu Metallization,"
National Science Foundation, (09/01/03-08/31/08), \$2,366,692 (30%), co-P.I.
12. "Nanoscale phenomenon in perovskite thin films,"
Argonne National Laboratory, months (02/14/04-02/16/04), \$10,000 (100%), P.I.
13. "Nanoscale phenomenon in perovskite thin films,"
Argonne National Laboratory, (03/14/02-08/13/03), \$10,000 (100%), P.I.
14. "Carrier Doping Epitaxial (Zn,Mg) O Thin Films,"
National Science Foundation, (06/15/03-04/30/06), \$349,990 (100%), P.I.
15. "Polymer Light Emitting Display using a Transparent Thin Film Transistor Array,"
Army Research Office, (09/01/02-08/31/04), \$416,983 (30%), P.I.
16. "Nucleation and epitaxy of conductive buffers on (001) Cu,"
Air Force Office of Scientific Research, (09/01/02-07/30/05), \$75,000 (100%), P.I.
17. "Laser molecular beam epitaxy system for nanostructured oxides,"
Dept. of Defense /DURIP, (04/01/02-03/01/03), \$230,000 (100%), P.I.
18. "Development of High Temperature Physical Property Measurement System for Probing Spin and
Charge-Functionalized Thin-Film Materials,"
National Science Foundation-MRI, (07/01/02-06/30/03), \$161,463 (100%), P.I.
19. "Nanoscale phenomenon in perovskite thin films,"
Argonne National Laboratory, (03/01/02-06/01/02), \$10,000 (100%), P.I.
20. "Equipment for Nanofabrication Facility,"
University of Florida Research Foundation, (2/1/02), \$2,492,270 (100%), P.I.
21. "Ion beam assisted deposition of NiO as biaxially-textured buffer for HTS coated conductor,"
IGC-SuperPower, (11/01/01-10/31/06), \$254,831 (100%), P.I.
22. "Intelligent luminescence for communication, display, and identification,"
Georgia Institute of Technology/MURI, (06/01/01-05/31/04), \$707,501 (25%), co-P.I.
23. "Low-dimensional K(Nb,Ta)O₃ thin films structures,"
Army Research Office, (05/01/01-10/31/04), \$434,000 (100%), P.I.
24. "Nanoscale phenomenon in perovskite thin films,"
Argonne National Laboratory, (03/01/01-06/01/01), \$10,000 (100%), P.I.
25. "High temperature superconducting films and buffers on biaxially textured Cu,"
Oak Ridge National Laboratory, (10/01/00-09/30/01), \$53,239 (100%), P.I.

TEACHING AND SERVICE

Courses Taught as Faculty in Materials Science and Engineering

- **EMA 3010: Introduction to Materials Science and Engineering (undergraduate)**
Atomic structure and bonding, crystal structures, defects, diffusion, mechanical properties of metals, phase diagrams and transformations, ceramics, polymers, composites, corrosion, and electronic properties
- **EMA 3413: Introduction to Electronic Materials (undergraduate)**
Electrons in solids, electrical properties of metals, semiconductors, and insulators, optical properties, magnetic properties, thermal properties
- **EMA 6110: Electron Theory in Solids (graduate)**
Topics covered include wave mechanics, quantum mechanics, statistical mechanics, free electron theory, quantum mechanics for crystals, semiconductor properties, optical properties, dielectric/ferroelectrics, and magnetic properties
- **EMA 6111: Electron Theory in Solids II: Optical and Magnetic Properties (graduate)**
Electromagnetic waves, physics of metals, optical properties of insulators, semiconductor absorption and photoluminescence, lasers, nonlinear opticals, magnetism
- **EMA 6938 Electronic Oxides: Properties and applications (graduate)**
Survey of properties, chemistry of oxides, thermodynamic stability of oxides, structural aspects of oxides, structural families, models of electronic structure, insulating oxides, semiconducting oxides, metallic and magnetic oxides, superconducting oxides

Activities in Organizing Professional Conferences

- International Program Committee: 17th International Workshop on Oxide Electronics, Jawaji City, Japan, October 2010.
- International Program Committee: 16th International Workshop on Oxide Electronics, Tarragona, Spain, October 2009.
- Session Co-Organizer, Focused Session on Zinc Oxide: Growth, Doping, Defects, Nanostructures, and Devices; Electronic Materials Conference, Pennsylvania, June 2009
- Focused Session Organizer, 33rd International Conference on Advanced Ceramics and Composites (ICACC), Daytona Beach, FL, January 2009
- Session Co-Organizer, Focused Session on Zinc Oxide: Growth, Doping, Defects, Nanostructures, and Devices; Electronic Materials Conference, California, June 2008
- Focused Session Organizer, 32nd International Conference on Advanced Ceramics and Composites (ICACC), Daytona Beach, FL, January 2008
- Symposium Organizer, Zinc Oxide and Related Materials, 2007 Fall Meeting of the Materials Research Society, Boston, MA November, 2007.
- International Program Committee: 14th International Workshop on Oxide Electronics, Jeju Island, Korea, October 2007.
- Subcommittee Member: 34th International Symposium on Compound Semiconductors (ISCS 2007), Kyoto University, Kyoto, Japan, October 2007
- Session Co-Organizer, Focused Session on Zinc Oxide: Growth, Doping, Defects, Nanostructures, and Devices; Electronic Materials Conference, Indiana, June 2007
- Session Co-Organizer, Focused Session on Zinc Oxide: Growth, Doping, Defects, Nanostructures, and Devices; Electronic Materials Conference, Pennsylvania, June 2006
- International Program Committee: 13th International Workshop on Oxide Electronics, Ischia, Italy, October 2006.
- Session Organizer: Multi-Functional Materials and Devices: 2006 Lester Eastman Conference On

- High Performance Devices, Cornell University, Ithaca, NY August 2006
- Co-Organizer: 12th International Workshop on Oxide Electronics, Chatham, MA, October 2005.
- Focused Session Organizer, APS DMP, American Physical Society March Meeting, Los Angeles, CA March 2005
- Session Co-Organizer, Focused Session on Zinc Oxide: Growth, Doping, Defects, Nanostructures, and Devices; Electronic Materials Conference, Santa Barbara, CA, June 2005
- Symposium Organizer, Functional and Multifunctional Oxide Films, 2004 Fall Meeting of the Materials Research Society, Boston, MA November, 2004.
- International Program Committee: 11th International Workshop on Oxide Electronics, Japan, September 2004.
- International Program Committee: 10th International Workshop on Oxide Electronics, Augsburg, Germany, September 2003.
- Session Chair, ONR Workshop on Epitaxial Heterogeneous Interfaces – Formation & Epitaxy, Tenaya Lodge at Yosemite, Fish Camp, CA, May, 2003
- Session Chair, 2003 Spring Meeting of the Materials Research Society, San Francisco, CA, April 2003
- International Program Committee: 10th International Workshop on Oxide Electronics, Augsburg, Germany, September 2003.
- Session Chair, 2002 Fall Meeting of the Materials Research Society, Boston, MA, November 2002
- Organizer and Co-Chair, 9th International Workshop on Oxide Electronics, St. Petersburg, FL, October 2002.
- Session Chair, 5th European Conference on Applied Superconductivity, Copenhagen, Denmark, August 2001.
- Organizing Committee: 8th International Workshop on Oxide Electronics, Osaka, Japan, September 2001.
- International Advisory Committee: Second International Symposium on Laser Precision Microfabrication, Singapore, May 2001
- Program Committee: SPIE International Symposium on High-Power Lasers and Applications; Conference on Laser Applications in Microelectronic and Optoelectronic Manufacturing VI, San Jose, CA, January 2001.
- Organizing Committee: 7th International Workshop on Oxide Electronics, Les Diablerets, Switzerland, October 2000.
- Session Chair, 2000 International Conference on Electronic Materials and European Materials Research Society Meeting, Strasbourg, France, June 2000.
- Symposium Organizer and Co-Chair: "Symposium on Laser-Solid Interactions for Materials Processing," Spring Meeting of the Materials Research Society, San Francisco, CA April 2000.
- Session Chair, Spring Meeting of the Materials Research Society, San Francisco, CA, April 2000.
- Symposium Organizer and Co-Chair, "Symposium on Substrate Engineering-Paving the Way to Epitaxy," Fall Meeting of the Materials Research Society, Boston, MA, November 1999.
- Session Chair, Fall Meeting of the Materials Research Society, Boston, MA 1999
- Session Chair, Spring Meeting of the Materials Research Society, San Francisco, CA 1998.
- Organizer, DMP Focused Sessions: "Laser Ablation and Low-Energy Beam-Assisted Film Growth", American Physical Society March Meeting, Kansas City, MO, March 1997
- Conference Organizer and Co-Chair, "Advanced Applications of Lasers in Materials Processing," IEEE/LEOS Summer Topical Meeting, Keystone, CO, March 1996.
- Session Chair, Spring Meeting of the Materials Research Society, San Francisco, CA 1995.
- Session Chair, TMS Annual Meeting, Las Vegas, NV 1995.
- Symposium Organizer and Co-Chair, "Symposium on Advanced Laser Processing of Materials-Fundamentals and Applications," Fall Meeting of the Materials Research Society, Boston, MA, November 1995.
- Session Chair, Spring Meeting of the Materials Research Society, San Francisco, CA 1995.

- Session Chair, ETL Workshop on High Temperature Superconductors, Tsukuba-shi, Japan 1993.
- Symposium Organizer and Co-Chair, "Symposium on Laser Ablation in Materials Processing: Fundamentals and Applications," Fall Meeting of the Materials Research Society, Boston, MA, November 1992.

Editorial Activities For Scholarly Journals

- Associate Editor, Journal of Crystal Growth (2002-present)
- Current reviewer for the following journals: Applied Physics Letters, Journal of Applied Physics, Journal of Materials Research, Physical Review B, Physical Review Letters, Physica B, Physica C, Physica E, Journal of Vacuum Science and Technology, Applied Physics A, Advanced Materials, Surface and Coating Technology, Journal of Physics: Condensed Matter, Journal of Physics D: Applied Physics, The Journal of Physical Chemistry, Crystal Growth & Design, Chemical Physics Letters, Materials Letters, Applied Surface Science, Inorganic Chemistry, Materials Research Bulletin, Semiconductor Science and Technology, Superconductor Science and Technology

Professional Society Membership

- Fellow, American Physical Society
- Fellow, American Vacuum Society
- Fellow, American Association for the Advancement of Science
- Member, Materials Research Society
- Member, Electrochemical Society
- Member, American Society for Engineering Education

Professional Service Activities

- Government Affairs Committee, Materials Research Society 2010-present
- Proposal Review Committee, Oak Ridge National Laboratory 2010
Center for Nanophase Materials Sciences (CNMS)
- ORNL NA-22 Program Review, Oak Ridge National Laboratory 2010
- Proposal Review Committee, Oak Ridge National Laboratory 2009
Center for Nanophase Materials Sciences (CNMS)
- Review Panelist; 2009 DOE Annual Superconductivity Peer Review, 2009
Washington, D.C. August 2009
- Proposal Review Committee, Oak Ridge National Laboratory 2008
Center for Nanophase Materials Sciences (CNMS)
- ORNL NA-22 Program Review, Oak Ridge National Laboratory 2008
- ORNL DOE Center Proposal Review, Oak Ridge National Laboratory 2008
- Proposal Review Committee, Oak Ridge National Laboratory 2007
Center for Nanophase Materials Sciences (CNMS)
- On-Site Reviewer, NSF Materials Research Science and 2009
Engineering Center, Yale University, Connecticut
- Proposal Review Committee, Oak Ridge National Laboratory 2006
Center for Nanophase Materials Sciences (CNMS)
- Review Panelist; 2006 DOE Annual Superconductivity Peer Review, 2006
Washington, D.C. July
- Review Panelist; 2005 DOE Annual Superconductivity Peer Review, 2005
Washington, D.C. July
- Review Panelist; 2004 DOE Annual Superconductivity Peer Review, 2004
Washington, D.C. July
- Review Panelist; 2004 NSF CAREER Awards, 2004
Washington, D.C., October
- Panelist for Reverse-Site Proposal Review; NSF MRSEC Awards, 2005

- Washington, D.C. May, Review Panelist; 2003 DOE Annual Superconductivity Peer Review, Washington, D.C. July 2003
- Review Panelist; 2002 DOE Annual Superconductivity Peer Review, Washington, D.C. July 2002
- Executive Committee, Electronic Materials and Processing Division, American Vacuum Society, 2002
- Reviewer for grant proposals to the National Science Foundation, Air Force Office of Scientific Research, Department of Energy

University Governance And Service

University level

- Vice President for Research 2012-present
- Associate Dean for Research 2009-2012
- Nanoscience Institute for Medical and Engineering Technologies Committee (NIMET) 2004-2011
- UF Task Force on the Governor's Initiative in Technology College Level 2002
- Chair, Search Committee for Associate Dean for Academic Affairs 2010
- Chair, College of Engineering Nanotechnology Bldg. Committee 2001-2002
- NanoScience and Technology Ctr. Faculty Steering Committee 2002-2004
- UF NanoFabrication Facility Committee 2003-2008
- UF Nanofabrication Facility Director 2006-2008
- Nanoscale Research Facility Cleanroom Director 2008

Department Level

- MAIC Committee 2003-2010
- MSE Safety Committee 2004-2008
- Dept. of Materials Science and Engr. Curriculum Committee 2002-2008
- Dept of Materials Science and Engr. Qualifying Exam Committee 2002-2008
- Search Committee for Faculty, Materials Science and Engr. 2002
- Search Committee for Nanoscience Faculty, Dept. of Physics. 2002-2004
- Search Committee for Dept. Chair, Materials Science and Engr. 2002-2003
- Search Committee for MSE Assistant in Engr. 2002-2003