

Curriculum Vitae: Rosa Alejandra Lukaszew

(a) Contact information

Address: Physics Department, College of William and Mary, PO Box 8795, Williamsburg, VA 23187.

Phone: (757) 221-2444. *Fax:* (757) 221-2050

Email: ralukaszew@wm.edu

Web-page: <http://ralukaszew.people.wm.edu/>

(b) Academic credentials

- *Undergraduate Institution:* University of Buenos Aires, Argentina. Physical-Chemistry Licentiate (1980).
- *Graduate Institution:* Wayne State University, Detroit. Physics. Ph. D. (1996).
- *Postdoctoral Institution:* University of Michigan, Ann Arbor. Condensed Matter Physics (1997-2000).

(c) Appointments

- Distinguished VMEC Professor, Applied Science and Physics Departments, College of William and Mary, Williamsburg, VA (2007-present).
- Assistant-Associate Professor, Physics and Astronomy Dept., University of Toledo, Toledo, OH (2001-04, 2004-07).
- Research Scientist, Mass Spectrometry Laboratory, Direction of Development and Research. National Atomic Energy Commission, Buenos Aires, Argentina (1980-90).

(d) Refereed Articles

In the area of thin films and nanostructures

1. M. R. Beebe, L. Wang, S. E. Madaras, J. M. Klopff, Z. Li, D. Brantley, M. Heimbürger, R. A. Wincheski, S. Kittiwatanakul, J. Lu, S. A. Wolf, and R. A. Lukaszew, "Surface plasmon resonance modulation in nanopatterned Au gratings by the insulator-metal transition in vanadium dioxide films", *Optics Express* 23 13222-13229 (2015).
2. T. J. Huffman, Peng Xu, A. J. Hollingshad, M. M. Qazilbash, Lei Wang, **R.A. Lukaszew**, S. Kittiwatanakul, J. Lu and S. A. Wolf, "Modification of electronic structure in compressively strained vanadium dioxide film", accepted for publication in *Phys. Rev. B* (2015).
3. Radue, E; Wang, L; Kittiwatanakul, S; Lu, J; Wolf, S; Rossi, E; **Lukaszew, R. A.**; Novikova, I, "Substrate induced microstructure effects on the dynamics of the photo-induced Metal-insulator transition in VO₂ thin films", *J. Opt.* **17**, 0255032 (2015). [Note: this collaborative paper has three faculty members in our department as co-authors and was selected Paper of the Week by the journal [<http://iopscience.iop.org/2040-8986>]
4. Lei Wang, Irina Novikova, John M. Klopff, Scott Madaras, Gwyn P. Williams, Eric Madaras, Jiwei Lu, Stuart A. Wolf and **R. A. Lukaszew** "Distinct Length Scales in the VO₂ Metal-Insulator Transition Revealed by Bi-chromatic Optical Probing", *Advanced Optical Materials* **2**, 30-33 (2014). [Note: this collaborative paper has two faculty members in our department as co-authors and it was selected to have a frontispiece by the journal, [<http://onlinelibrary.wiley.com/doi/10.1002/adom.v2.1/issuetoc>]
5. Z. Li, J. M. Riso, **R. A. Lukaszew**, "Photocathode materials able to sustain high Currents", *Proc. Of Science*, (PSTP2013)061, (published in 2014).
6. K. Yang, **R. A. Lukaszew**, "Magneto-Optical Studies in Magneto-Plasmonic Ferromagnetic Silmanal Thin Films", 59th Magnetism & Magnetic Materials (MMM) Conference Proceedings (2014).

7. **Rosa A. Lukaszew**, Douglas Barry Beringer, William Michael Roach, Grigory V. Ereemeev, Charles E. Reece, Anne-Marie Valente-Feliciano, "Proof of Concept Thin Films and Multilayers Toward Enhanced Field Gradients in SRF Cavities", *SRF 2103 Conference Proceedings* (2013).
8. E. Radue, E. Crisman, L. Wang, S. Kittiwatanakul, J. Lu, S. A. Wolf, R. Wincheski, **R. A. Lukaszew**, and I. Novikova, "Effect of a substrate-induced microstructure on the optical properties of the Insulator-Metal Transition temperature in VO₂ Thin Films", *J. Appl. Phys.* **113**, 233104 (2013).
9. D. B. Beringer, W. M. Roach, C. Clavero, C. E. Reece, and **R. A. Lukaszew**, "Roughness analysis applied to niobium thin films grown on MgO(001) surfaces for superconducting radio frequency cavity applications," *Phys. Rev. ST Accel. Beams* **16**, 022001 (2013).
10. W. M. Roach, D. B. Beringer, Z. Li, C. Clavero, and **R. A. Lukaszew**, "Magnetic Shielding Larger than the Lower Critical Field of Niobium in Multilayers," *IEEE Trans. Appl. Supercond.* **23**, 8600203 (2013).
11. D. Beringer, C. Clavero, T. Tan, X. Xi, W. Roach, **R. A. Lukaszew**, "Thickness Dependence and Enhancement of H_{C1} in Epitaxial MgB₂ Thin Films" *IEEE Trans. Appl. Supercond.* **23**, 7500604 (2013).
12. L. Wang, E. Radue, S. Kittiwatanakul, C. Clavero, J. Lu, S. A. Wolf, I. Novikova, and **R. A. Lukaszew**, "Surface plasmon polaritons in VO₂ thin films for tunable low-loss plasmonic applications", *Optics Letters*, Vol. **37**, Issue 20, pp. 4335-4337 (2012).
13. E. Radue, E. Crisman, L. Wang, S. Kittiwatanakul, J. Lu, S. A. Wolf, **R. A. Lukaszew**, I. Novikova, "Substrate Effect on Optical Properties of Insulator-Metal Transition in VO₂ Thin Films", arXiv:1210.7746 [cond-mat.mtrl-sci] (2012).
14. W. M. Roach, J. R. Skuza, D. B. Beringer, Z. Li, C. Clavero, and **R. A. Lukaszew**, "NbN thin films for superconducting radio frequency cavities". *Supercond. Sci. Technol.* **25**, 125016 (2012).
15. Cesar Clavero, Nathan P. Guisinger, Srivilliputhur G. Srinivasan, and **R. A. Lukaszew**, "Study of Nb epitaxial growth on Cu(111) at sub-monolayer level", *J. Appl. Phys.* **112**, 074328 (2012).
16. E. Chen, D. Apalkov, A. Driskill-Smith, A. Khvalkovskiy, D. Lottis, K. Moon, V. Nikitin, A. Ong, X. Tang, S. Watts, M. Krounbi, S. A. Wolf, S. J. Poon, J. W. Lu, A. W. Ghosh, M. Stan, W. Butler, Tim Mewes, S. Gupta, C. K. A. Mewes, P. B. Visscher and **R. A. Lukaszew**, "Progress and Prospects of Spin Transfer Torque Random Access Memory", accepted for publication in *IEEE Transactions in Magnetics* (2012).
17. D. B. Beringer, W. M. Roach, C. Clavero, C. E. Reece and **R. A. Lukaszew**, "Roughness analysis applied to niobium thin films grown on MgO(001) surfaces for superconducting radio frequency cavity applications" accepted for publication in *Phys. Rev. ST Accel. Beams* (2012).
18. C. Clavero, D. B. Beringer, W. M. Roach, J. R. Skuza, K. C. Wong, A. D. Batchelor, C. E. Reece, and **R. A. Lukaszew**, "Strain Effects on the Crystal Growth and Superconducting Properties of Epitaxial Niobium Ultrathin Films", *Cryst. Growth Des.*, **12** (5), pp 2588–2593 (2012)
19. W. M. Roach, D. B. Beringer, J. R. Skuza, W. A. Oliver, C. Clavero, C. E. Reece, and **R. A. Lukaszew**, "Niobium thin film deposition studies on copper surfaces for superconducting radio frequency cavity applications", *Phys. Rev. ST Accel. Beams* **15**, 062002 (2012).
20. L. Wang, C. Clavero, K. Yang, E. Radue, M. T. Simons, I. Novikova, and **R. A. Lukaszew**, "Bulk and surface plasmon polariton excitation in RuO₂ for low-loss plasmonic applications in NIR", *Optics Express* **20**, 8618-8628 (2012).
21. Lei Wang, C. Clavero, Z. Huba, K. J. Carroll, E. E. Carpenter, D. Gu and **R. A. Lukaszew**, "Plasmon Enhanced Electro-Magnetic fields and Magneto-Optical response in core-shell Co-Ag nanoparticles", *Nanoletters* **11**, 1237-1240 (2011).
22. C. Clavero, M. Bode, G. Bihlmayer, S. Bluegel and **R. A. Lukaszew**, "Island assisted interface alloying and magnetic polarization at submonolayer V/Cr interfaces". *Phys. Rev. B* **82**, 085445 (2010).
23. C. Clavero, K. Yang, J. R. Skuza and **R. A. Lukaszew**, "Magnetic field modification of Surface Plasmon Polaritons on gratings", *Optics Letters* **35**, 1557 (2010).

24. J. R. Skuza, C. Clavero, K. Yang, B. Wincheski, and **R. A. Lukaszew**, "Microstructural, magnetic anisotropy, and magnetic domain structure correlations in epitaxial FePd thin films with perpendicular magnetic anisotropy". *IEEE Trans. Magnetics* **46**, 1886 (2010).
25. K. Yang, C. Clavero, J. R. Skuza, M. Varela and **R. A. Lukaszew**, "Surface plasmon resonance and magneto-optical enhancement on Au-Co nanocomposite thin films", *Journal of Applied Physics* **107**, 103924 (2010).
26. L. Wang, K. Yang, C. Clavero, A. J. Nelson, K. J. Carroll, E. E. Carpenter, and **R. A. Lukaszew**, "Localized Surface Plasmon Resonance enhanced magneto-optical activity in core-shell Ag-Fe nanoparticles" *Journal of Applied Physics* **107**, 09B303 (2010).
27. C. Clavero, K. Yang, J. R. Skuza, and **R. A. Lukaszew**, "Magnetic field modification of intense Surface Plasmon Polaritons". *Optics Express* **18**, 7743 (2010).
28. C. Clavero, J. R. Skuza, J. M. García-Martín, A. Cebollada, D. A. Walko and **R. A. Lukaszew**, "Order and phase nucleation in non-equilibrium nano-composite Fe-Pt thin films with perpendicular magnetic anisotropy", *Phys. Rev. B* **79**, 104436 (2009).
29. C. Clavero, J. R. Skuza, Y. Choi, D. Haskel, B. J. Kirby, C. Sánchez-Hanke, R. Loloee, M. R. Fitzsimmons, **R. A. Lukaszew**, "Enhancement of induced V polarization due to rough Fe/V interfaces". *Phys. Rev. B* **80**, 024418 (2009).
30. G. Zhu, H. Li, C. Clavero, K. Yang, **R. A. Lukaszew**, V. A. Podolskiy, and M. A. Noginov, "Surface Plasmon Polaritons in Silver-Gold Sandwich Structure," in Conference on Lasers and Electro-Optics/International Quantum Electronics, OSA Technical Digest (CD) (Optical Society of America, 2009), paper IFC4.
31. 'Erratum: Control of the perpendicular magnetic anisotropy of FePd films via Pd capping deposition', [Appl. Phys. Lett. 92, 162502 (2008)] C. Clavero, J. R. Skuza, Y. Choi, D. Haskel, J. M. García-Martín, A. Cebollada, and **R. A. Lukaszew**, *Appl. Phys. Lett.* **92**, 209902 (2008).
32. 'Control of the perpendicular magnetic anisotropy of FePd films via Pd capping deposition', C. Clavero, J. R. Skuza, Y. Choi, D. Haskel, J. M. García-Martín, A. Cebollada, and **R. A. Lukaszew** *Appl. Phys. Lett.* **92**, 162502 (2008).
33. 'Surface-magnetoplasmon nonreciprocity effects in noble-metal/ferromagnetic heterostructures' J. B. Gonzalez-Diaz, A. Garcia-Martin, G. Armelles, J. M. Garcia-Martin, C. Clavero, A. Cebollada, **R. A. Lukaszew**, J. R. Skuza, D. P. Kumah, and R. Clarke, *Phys. Rev. B* **76**, 153402 (2007).
34. 'Real time structural modification of epitaxial FePt thin films under x-ray rapid thermal annealing using undulator radiation'. J. R. Skuza, **R. A. Lukaszew**, E. M. Dufresne, D. A. Walko, C. Clavero, A. Cebollada, C. N. Cionca and R. Clarke, *Appl. Phys. Lett.* **90**, 251901 (2007).
35. 'CdS thin films formed on flexible plastic substrates by pulsed-laser deposition', K. P. Acharya, J. R. Skuza, **R. A. Lukaszew**, C. Liyanage, and B. Ullrich, *J. Phys.: Condens. Matter* **19**, 196221 (2007).
36. 'Optimizing the planar structure of (111) Au/Co trilayers', D. P. Kumah, A. Cebollada, C. Clavero, J. M. Garcia-Martin, J. R. Skuza, **R. A. Lukaszew**, and R. Clarke. *J. Phys. D: Appl. Phys.* **40**, 2699 (2007).
37. 'Temperature and thickness dependence at the onset of perpendicular magnetic anisotropy in FePd thin films sputtered on MgO (001)', C. Clavero, J. M. García-Martín, J. L. Costa Krämer, G. Armelles, A. Cebollada, Y. Huttel, **R. A. Lukaszew**, and A. J. Kellock, *Phys. Rev. B* **73**, 174405 (2006).
38. 'Atomistic Modeling of Alloy Ordering After Fe Deposition and Annealing on Pt(111)', G. Bozzolo, **R. A. Lukaszew** and J. E. Garces, *Appl. Phys. Lett.* **88**, 011915 (2006).
39. 'Observation of N Polarization in FeN using soft X-Ray Magnetic Circular Dichroism', C. Sánchez-Hanke, R. Gonzalez-Arrabal, J. E. Prieto, E. Andrzejewska, N. Gordillo, D. O. Boerma, R. Loloee, J. Skuza and **R. A. Lukaszew**, *J. Appl. Phys.* **99**, 08B709 (2006).
40. 'Structural and Surface Analysis of Thin Film ZnTe Formed with Pulsed-Laser Deposition', A. Erlacher, **R. A. Lukaszew** and B. Ullrich, *Surface Science*, **600** (18), 3762-3765, (2006).

41. 'Surface and Texture Characterization of Thin Film ZnTe Formed with Laser Deposition', A. Erlacher, **R. A. Lukaszew**, H. Jaeger and B. Ullrich, *J. Vac. Sci. Technol. A* **24**, 1623 (2006).
42. 'Highly ordered FePt and FePd magnetic nanostructures: correlated structural and magnetic studies', **R. A. Lukaszew**, A. Cebollada, C. Clavero and J.M. Garcia-Martín, *Physica B: Condensed Matter, Volume* **384**, 15-18 (2006).
43. 'Hexagonal Closed-Packed Ni Nanostructures', W. Tian, H. P. Sun, J. H. Yu, M. Yeadon, C.B.Boothroyd, **R. A. Lukaszew**, R. Clarke, and X. Q. Pan, *Appl. Phys. Lett.* **86**, 131915 (2005).
44. 'Exchange Bias on Epitaxial Ni Films due to Ultrathin NiO Layer', **R. A. Lukaszew**, M. Mitra and Z. Zhang and M. Yeadon, *Eur. Phys. J. B.***45**, 181-184 (2005).
45. 'Self-Assembled NiO Nano-Wires on Epitaxial Ni Films', **R. A. Lukaszew**, Z. Zhang and R. Clarke, in *Nanotechnology II*, ed. by Paolo Lugli, Laszlo B. Kish and Javier Mateos, In: *Proceedings of SPIE* Vol. **5838**, 52-60 (2005).
46. 'Growth and Structural Evolution of Nanosized Ni on (001) MgO by in situ TEM', H. P. Sun, W. Tian, Y. B. Chen, J. H. Yu, M. Yeadon, C. B. Boothroyd, **R. A. Lukaszew**, R. Clarke and X. Q. Pan, *Microscopy and Microanalysis*, **10**, 272-273 (2004).
47. 'Magneto-Transport in Nano-Patterned Epitaxial Ni Films', **R. A. Lukaszew**, Zhengdong Zhang, Dave Pearson, *International Journal in Nanoscience* **3**, No. 6 (2004) 729-735.
48. 'Surface Nano-Patterning Effects, Structure and Magnetic Properties of Epitaxial Ni Films', **R. A. Lukaszew**, Zhengdong Zhang, Dave Pearson, Vladimir Stoica, Roy Clarke and Mark Yeadon, *International Journal in Nanoscience*, **3**, No. 6 (2004) 737-748.
49. 'Epitaxial Ni films, e-beam nano-patterning and BMR', **R. A. Lukaszew**, Z. Zhang, D. Pearson, and A. Zambano, *J. of Mag. and Mag. Mat.* **272-276**, 1864 (2004).
50. 'Magnetization dynamics and magneto-transport in epitaxial nano-structures', **R. A. Lukaszew**, D. Pearson, Z. Zhang and A. Zambano, *J. Vac. Sci. Technol. A***22**, 1371 (2004).
51. 'Magnetization dynamics and magneto-transport in epitaxial nano-structures', **R. A. Lukaszew**, D. Pearson, Z. Zhang and A. Zambano, *V. J. of Nanoscale Science and Technology* (Vol 10, Issue 5, Aug. 2, 2004)
52. 'Correlated Structural and Magnetization Reversal Studies on Epitaxial Ni Films Grown with MBE and with Sputtering', Zhengdong Zhang, **R. A. Lukaszew**, C. Cionca, X. Pan, R. Clarke, M. Yeadon, A. Zambano, D.Walko, and E. Dufresne, APS, and Suzanne te Velthuis, *J. Vac. Sci. Technol. A* **22**, 1868 (2004).
53. 'Surface morphology, structure and magnetic anisotropy in epitaxial Ni films', **R. A. Lukaszew**, Zhengdong Zhang, David Pearson, Vladimir Stoica and Roy Clarke, *J. of Alloys and Compounds*, **369/1-2**, 213-216 (2004).
54. 'Surface morphology and magnetic anisotropy', **R. A. Lukaszew**, Z. Zhang, V. Stoica and R. Clarke, *AIP Conf. Proc.* **696**, 629(2003).
55. 'Annealing effects on (001) Ni films grown on MgO', **R. A. Lukaszew**, Z. Zhang, V. Stoica and R. Clarke, *Appl. Surf. Science* **219/1-2**, 74-79 (2003).
56. 'Surface Morphology and Magnetization Reversal', **R. A. Lukaszew**, Z. Zhang, C. Cionca, V. Stoica and R. Clarke, *J. Vac. Sci. Technol. A* **21**, 1524 (2003).
57. 'Scaling behavior of (001) and (111) Cu surfaces', **R. A. Lukaszew** and R. Clarke, *Appl. Surf. Science* **191**, 118-122 (2002)
58. 'Surface reconstruction and induced uniaxial magnetic fields on Ni films', **R. A. Lukaszew**, B. McNaughton, V. Stoica and R. Clarke, *MRS Proceedings* **696**, N3.29, In: *Current Issues in Heteroepitaxial Growth-Stress Relaxation and Self Assembly*, Eric A. Stach, Eric H. Chason, Robert Hull, Samuel D. Bader.

59. 'Magnetic Characterization of (001) and (111) Ni Films Epitaxially Grown on MgO', **R. A. Lukaszew**, V. Stoica, and R. Clarke, *MRS Proceedings* **674**, T1.7, In: *Applications of Ferromagnetic and Optical Materials, Storage and Magneto-electronics*, B. J. H. Stadler, K. Bussmann, W. Egglehoff, Edward S. Murdock Ed., 2001.
60. 'Smoothing of (001) and (111) Cu films epitaxially grown on Si substrates', **R. A. Lukaszew**, C. Uher and R. Clarke, *MRS Proceedings* **648**, In: *Growth, Evolution, and Properties of Surfaces, Thin Films, and Self-Organized Structures*, S.C. Moss Ed., 2001. **Award winning poster at the MRS Fall meeting, Boston (2000)**.
61. 'Epitaxial Growth of (001) and (111) Ni Films on MgO Substrates', **R. A. Lukaszew**, V. Stoica, C. Uher and R. Clarke, *MRS Proceedings* **648**, In: *Growth, Evolution, and Properties of Surfaces, In: Thin Films, and Self-Organized Structures*, S.C. Moss Ed. (2001).
62. 'Smoothing of Cu films grown on Si(100) ', **R. A. Lukaszew**, Y. Sheng, C. Uher and R. Clarke, *Appl. Phys. Lett.* **76**, 724, (2000).
63. 'Use of Magnetocrystalline Anisotropy in Spin-Dependent Tunneling', **R. A. Lukaszew**, Y. Sheng, C. Uher and R. Clarke, *Appl. Phys. Letters* **75**, 1941 (1999).
64. Temperature dependence of magnetization reversal in Co-BN-Co structures', L. Pust, **R. A. Lukaszew**, R. Clarke, D. Litvinov, Y. Sheng, C. Uher, Y. Wang and L. Wenger, *J. of Appl. Phys.* **85**, 5765, (1999).
65. 'Interface Structure and Surface Morphology of (Co, Fe, Ni) / Cu/ Si (100) Thin Films', B. G. Demczyk, V. M. Naik, **R. A. Lukaszew**, R. Naik, G. W. Auner, *J. Appl. Phys.* **80**, 5035, (1996).
66. 'Coordinated RHEED, XRD and FMR investigations of MBE grown Co-Cu (100) superlattices', **R. A. Lukaszew**, R. Naik, K. R. Mauntfield, J. O. Artman. *J. Appl. Phys.* **79**, 4787, (1996).
67. 'Strain-induced perpendicular magnetic anisotropy of <100> oriented Ni-Cu superlattices', R. Naik, A. Poli, D. McKague, **R. A. Lukaszew**, L. E. Wenger, *Phys. Rev. B* **51**, 3549, (1994).

Selected publications in the areas of atomic/nuclear physics, ion processes and materials

68. 'Energy and Charged Particle Flow in 10.8 A GeV/c Au + Au Collisions', J. Barrette, R. Bellwied, S. Bennett, P. Braun-Munzinger, W.C. Chang, W.E. Cleland, M. Clemen, J. Cole, T.M. Cormier, G. David, J. Dee, O. Dietzsch, M. Drigert, J.R. Hall, T.K. Hemmick, N. Herrmann, B. Hong, Y. Kwon, R. Lacasse, **R.A. Lukaszew**, Q. Li, T.W. Ludlam, S.K. Mark, Matheus, S. McCorkle, J.T. Murgatroyd, E. O'Brien, S. Panitkin, T. Piazza, C. Pruneau, M. Rao, M. Rosati, N.C. da Silva, S. Sedykh, U. Sonnadara, J. Stachel, E.M. Takagui, Voloshin, G. Wang, J.P. Wessels, C.L. Woody, N. Xu, Y. Zhang, and C. Zou, *Phys. Rev. C* **55**, 1420 (1997).
69. 'Observation of Anisotropic Event Shapes and Transverse Flow in Ultrarelativistic Au + Au Collisions', J. Barrette, R. Bellwied, S. Bennett, P. Braun-Munzinger, W. E. Cleland, M. Clemen, J. Cole, T. M. Cormier, G. David, J. Dee, O. Dietzsch, M. Drigert, S. Gilbert, J. R. Hall, T. K. Hemmick, N. Herrmann, B. Hong, C. L. Jiang, Y. Kwon, R. Lacasse, **R. A. Lukaszew**, Q. Li, T. W. Ludlam, S. McCorkle, S. K. Mark, E. O'Brien, S. Panitkin, T. Piazza, C. Pruneau, M. N. Rao, M. Rosati, N. C. daSilva, S. Sedykh, U. Sonnadara, J. Stachel, H. Takai, E. M. Takagui, S. Voloshin, G. Wang, J. P. Wessels, C. L. Woody, N. Xu, Z. Zhang, and C. Zou, *Phys. Rev. Lett.* **73**, 2532 (1994).
70. 'Search for resonance-like structure in the total scattering of positrons by argon and krypton' D. Przybyla, C. K. Kwan, **R. A. Lukaszew**, W. E. Kauppila, and T. S. Stein. *AIP Conference Proceedings* **303**, 571-573 (1994).
71. 'Toward measurements of total cross sections for positrons and electrons scattered by potassium and rubidium atoms' S. P. Parikh, W. E. Kauppila, C. K. Kwan, **R. A. Lukaszew**, D. Przybyla, T. Stein and S. Zhou. *Phys. Rev. A* **47** (1993) 1535.
72. 'Measurements of Total Cross Sections for Positron-K and -Rb Scattering', T.S. Stein, W.E. Kauppila, C.K. Kwan, **R.A. Lukaszew**, S.P. Parikh, D. Przybyla and S. Zhou, *Hyperfine Interactions* **73**, 205 (1992).

73. 'Total cross-section measurements for positrons and electrons scattered by sodium and potassium atoms' C. K. Kwan, W. E. Kauppila, **R. A. Lukaszew**, S. P. Parikh, T. S. Stein, Y. J. Wan and M. S. Dababneh. *Phys. Rev. A* **44**, 1620 (1991).
74. 'An application of the analysis of variance applied to isotopic determination of deuterium in water' E. Gautier, **R. A. Lukaszew**, J. G. Marrero, F. Azcoaga, *Revue Roumaine de Chimie* **37**, 899 (1992).
75. 'Uranium Submicrosample Isotopic Analysis by TIMS'. R. F. Cretella, **R. A. Lukaszew**, J. DalFavero, R. Servant. *J. Radioanal. Nucl. Chem. Lett.* **145**, 379 (1990).
76. 'Spark Source Mass Spectrometry Applied to the Determination of the Isotopic Composition of Samples Containing Lithium, Boron or Iron', **R. A. Lukaszew**, J. G. Marrero, R. Cretella, C. Noutary. *Analyst* **115**, 915 (1990).
77. 'Isotopic Analysis of ⁷LiOH Samples by SSMS', **R. A. Lukaszew**, C. J. Noutary, R. F. Cretella. *J. Radioanal. Nucl. Chem. Lett.* **144**, 335 (1990).
78. 'A methodology for the isotopic characterization of natural uranium to be used as reference material for TIMS' R. F. Cretella, **R. A. Lukaszew**, J. G. Marrero, R. Servant. *Int. Journal of Mass Spectrometry and Ion Proc.* **98**, 99 (1990).
79. 'Determination of Rare Earth Elements in a glass matrix by spark source mass spectrometry', **R. A. Lukaszew**. *Spectrochimica Acta* **45B**, 613 (1990).
80. 'Seasonal Variations in the D/H ratio in Limay and Parana Rivers', E. A. Gautier, **R. A. Lukaszew**, R. Servant. *Water Research* **24**, 191 (1990).
81. 'Control of the hafnium content in Co samples by SSMS', **R. A. Lukaszew**, R. F. Cretella. *Fresenius Z. Anal. Chem.* **335**, 390 (1989).
82. 'A photo plate calibration technique applied to the determination of Hf in zirconium by SSMS', **R. A. Lukaszew**, H. Bellavigna, R. Cretella, M. G. Denari, C. J. Noutary. *J. Radioanal. Nucl. Chem. Lett.* **135**, 211 (1989).
83. 'Control of the ¹⁰B/¹¹B isotopic ratio in BO₃H₃ samples by SSMS', **R. A. Lukaszew**, J. G. Marrero, R. F. Cretella. *J. Radioanal. Nucl. Chem. Lett.* **135** (1989) 93.
84. 'Determination of ⁵⁵Fe/⁵⁸Fe and ⁵⁹Fe/⁵⁸Fe isotopic ratios in irradiated Na₂[FeNO(CN)₅].2H₂O by SSMS', **R. A. Lukaszew**, J. G. Marrero, R. F. Cretella. *J. Radioanal. Nucl. Chem. Lett.* **108**, 9 (1986).

Publications in the area of Bio-applications

85. 'Impaired hyaloidal function and uncoordinated ocular growth patterns in experimental ROP'. Berkowitz, B.A., **Lukaszew, R.A.**, Mullins, C.M., Penn, J.S. *Invest. Ophthalmol. Vis. Sci* **39**, 391-96 (1998).
- 81-105 Internal publications of restricted circulation at the National Atomic Commission, Buenos Aires, Argentina (1980-1990).

Book

“Nanomagnetism”, editor and contributing author (Panstanford). Scheduled for publication in 2015.

(e) Research Meetings Participation

- APS March Meeting, San Antonio, Texas (2015)
 - Study of microstructure effects on the photo-induced Metal-insulator transition in VO₂ thin films grown on Al₂O₃ and TiO₂. E. Radue, L. Wang, S. Kittiwatanakul, J. Lu, S. Wolf, E. Rossi, I. Novikova, R.A. Lukaszew.

- Surface Plasmon Resonance and Insulator-Metal Transition in Gold and Vanadium Dioxide Bilayer Films, M. R. Beebe, L. Wang, S. E. Madaras, M. Klopff, Z. Li, R. Wincheski, J. Lu, S. Wolf and R. A. Lukaszew
- Surface Plasmon Resonance enhancement via oblique thin film deposition on gratings, Z. Li, M. Klopff, G. Schwartz, M. Heimburger, L. Wang, K. Yang and R. A. Lukaszew
- Invited talks (2014):
 - R. A. Lukaszew, “Tests of the Gurevich model toward larger field gradients in SRF cavities”, invited talk for the 6th workshop on Thin Films and New Ideas for SRF, Padova, Italy (10/6/2014).
 - R. A. Lukaszew, “A review of the thin film techniques potentially applicable to cavities”, invited talk for the 6th workshop on Thin Films and New Ideas for SRF, Padova, Italy (10/6/2014).
 - R. A. Lukaszew, “Optical studies on VO₂ thin films”, invited Special Colloquium for the end of the academic year at the Instituto de Ciencias Fisicas, Universidad Nacional Autonoma de Mexico (UNAM), Campus Morelos, Cuernavaca, Mexico (12/11/2014).
- 4th International Conference on Superconductivity and Magnetism, Antalya, Turkey (4/7-5/2, 2014).
 - “Non-Linear Magnetic SHG and Magneto-Transport in Au-Co Nanocomposite Films” K. Yang, V. Kryutyanskiy, I. Kolmychek, T. V. Murzina, R. A. Lukaszew.
 - “Thickness Dependence of Superconducting Properties in Niobium Nitride Thin Films”, D. B. Beringer, M. Burton, M. Beebe, K. Yang, R. A. Lukaszew, A. Gurevich, J. Delayen.
- 59th Annual Conference on Magnetism and Magnetic Materials, Honolulu, Hawaii (Nov. 3-7, 2014).
 - “The Magneto-Optical Studies in Magneto-Plasmonic Ferromagnetic Silmanal Thin Films”, K. Yang and R. A. Lukaszew
- 61st AVS International Symposium and Exhibition, Baltimore, MD (11/2014).
 - “Thickness Dependence of Superconducting Properties of NbN & NbTiN Thin Films”, M. Burton, D. Beringer, K. Yang, M. Beebe, W. Roach, D. Brantley, E. Visosky, S. Sharma, Z. Li, L. Wang, J. M. Riso, and R. A. Lukaszew
- APS March Meeting, Denver, Colorado (March 3-7, 2014)
 - “Thickness dependence of superconducting properties in NbN thin films”, M. Burton, D. Beringer, M. Beebe, E. Visosky, D. Brantley, S. Sharma, K. Yang, R. A. Lukaszew.
 - “Optical anisotropy in the metal-to-insulator transition in VO₂ thin films”, M. T. Simons, E. Radue, L. Wang, S. Kittiwatankul, J. Lu, S.A. Wolf, R.A. Lukaszew, I. Novikova.
 - “Effect of strain on the dynamics of optically induced metal-insulator transition of VO₂ thin films”, M. E. Radue, T. Simons, L. Wang, S. Kittiwatankul, J. Lu, S.A. Wolf, R.A. Lukaszew, I. Novikova.
 - “Metal-based photocathode materials able to sustain high currents”, Z. Li, K. Yang, J. Riso, R. A. Lukaszew.
- APS March Meeting, Baltimore, MD (March 18-22, 2013).
 - “Nanocluster effects on magneto-resistance and optical second-harmonic generation in Au-Co composite films”, Kaida Yang, Tatiana Murzina, R. A. Lukaszew
 - “Broadband Infrared Spectroscopy of Vanadium Dioxide Films Under the Influence of Strain”, T.J. Huffman, P. Xu, A.J. Holloing-Shad, N.E. Penthorn, D.J. Brooker, M.M. Qazilbash, L. Wang, R.A.Lukaszew, B.-J. Kim, H.-T. Kim
 - “Niobium Nitride Thin Films and Multilayers for Superconducting Radio Frequency Cavities”, W. Roach, D. Beringer, Z. Li, C. Clavero, R. A. Lukaszew
 - “Bi-chromatic probing of the metal-insulator transition in VO₂ thin films”, L. Wang, I. Novikova, M. Klopff, E. Madaras, S. Madaras, G. Williams, R. A. Lukaszew

- “Thickness dependence of superconducting properties in magnesium diboride thin films”, D. Beringer, C. Clavero, T. Tan, X. Xi, R. A. Lukaszew
- “Study of Insulator-Metal transition of VO₂ thin films with ultrafast optical pulses”, E. Radue, L. Wang, E. Crisman, S. Kittiwatanakul, J. Lu, S. A. Wolf, R. Lukaszew and I. Novikova.
- Applied Superconductivity Conference, Portland, OR (October 7-12, 2012).
 - “Thickness dependence of superconducting properties in magnesium diboride thin films”, D.B. Beringer, C. Clavero, T. Tan, X. Xi and R.A. Lukaszew.
 - “Niobium nitride thin films and multilayers for superconducting radio frequency cavities”, W.M. Roach, D.B. Beringer, Z. Li, C. Clavero, R.A. Lukaszew.
- International Conference of the Asian Union of Magnetic Societies (ICAUMS 2012, October 2-5, 2012, Nara, Japan).
 - “Surface and Interface Roughness Analysis of Ultrathin Co/Pd Multilayer for Magnetic Tunnel Junctions”, K. Yang, Z. Li and R. A. Lukaszew
- 5th International Workshop on "Thin films applied to Superconducting RF and new ideas for pushing the limits of RF Superconductivity", T. Jefferson National Acc. Fac., Newport News, VA., July 18-20, 2012.
 - Thickness dependence of superconducting properties in MgB₂ thin films, Douglas Beringer et al.
 - Niobium Nitride Thin Films for Superconducting Radio Frequency Cavities, William Roach et al.
- 2012 Virginia Space Grant Consortium Graduate Research Meeting and Scholars and Fellows Luncheon, April 5, 2012, Williamsburg, VA. *Metal Insulator Transitions: The Case of VO₂*. Invited Keynote Address, R. A. Lukaszew
- Photon Science Workshop at James Madison University, Harrisonburg, Virginia. May 16, 2012. Study of Plasmons and Polaritons In Oxide Thin Films. Invited talk. R. A. Lukaszew, College Of William And Mary
- APS March Meeting 2012 (Boston, MA).
 - “Simultaneous Bulk and Surface Plasmon Resonance and Radiative Polaritons excited in RuO₂ films grown on glass and on TiO₂”. L. Wang, C. Clavero, K. Yang, E. Radue, G. Scarel, I. Novilkova and R. A. Lukaszew.
- 56th Magnetism and Magnetic Materials Conference, Scottsdale, AZ (October 30-Nov. 3, 2011).
 - Magneto-plasmonics and magneto-transport in Au-Co nanocomposite films. K. Yang, C. Clavero, J. Skuza and A. Lukaszew. Contributed talk.
- TechConnect World Conference and Expo 2011, Hynes Convention Center, Boston, MA (June 13-16, 2011).
 - “Enhancement of the magneto-optical activity via surface plasmon resonance on Au-Co nanocomposite thin films”, Kaida Yang, César Clavero, Jonathan Skuza and R. A. Lukaszew.
- Techstorm, Fairfax, VA (June 2, 2011).
 - (Invited talk) “Magneto-Plasmonics and Nano-Patterning to Read Stored Data”, C. Clavero, R. A. Lukaszew.
- E-Beam Micro-characterization Centers and Nanoscale Science Research Centers 2011 Contractors’ Meeting, Annapolis, MD (May 2011).
 - (Invited poster) “Morphology and electronic structure of Nb nano-islands on Cu(111)”, C. Clavero, N. Guisinger, R. A. Lukaszew.
- APS March Meeting 2011- Dallas, TX (March 21-25, 2011)
 - “Structure, Morphology and SRF Characteristics of Superconducting Niobium Thin Films on Ceramic Substrates”, D. Beringer, W. Roach, C. Clavero, C. Reece, R. A. Lukaszew

- NORTH CAROLINA NANOTECHNOLOGY COMMERCIALIZATION CONFERENCE, UNC-Charlotte, NC March 2011.
 - “Enhancement of the Magneto-Optical Activity via Surface Plasmon Resonance on Au-Co Nanocomposite Thin Films”, (Poster) K. Yang, C. Clavero, J. Skuza and R. A. Lukaszew.
 - “Plasmon Enhanced Electro-Magnetic Fields and Magneto-Optical Response in Core-Shell Co-Ag Nanoparticles”, (Poster) L. Wang, C. Clavero, Z. Huba, K. J. Carroll, E. E. Carpenter, D. Gu and R. A. Lukaszew.
- AVS 58th International Symposium and Exhibition, Nashville, TN (Oct. 30-Nov.4 2011)
 - Early Stages of Nb Growth on Cu for SRF Accelerator Applications, C. Clavero, N.P. Guisinger, R.A. Lukaszew, contributed talk for the session on Surface Science for Future Electronic Materials and Accelerator Applications.
 - Epitaxial Niobium Thin Films for Accelerator Cavities, W.M. Roach, D. Beringer, C. Clavero., C. Reece, R.A. Lukaszew. Contributed talk for the session on Surface Science for Future Electronic Materials and Accelerator Applications.
- 2011 SRF International Conference, Chicago, Illinois (7/25-29, 2011)-Conf. Proceedings.
 - Investigations of epitaxial Nb thin films grown on different surfaces suitable for SRF applications., W.M. Roach, D. Beringer, C. Clavero, C. E. Reece, and R.A. Lukaszew.
 - Anomalous morphological scaling in epitaxial Nb films grow on (001) MgO, D. Beringer, W. M. Roach, C. Clavero, C. E. Reece and R. A. Lukaszew.
 - Strain effects on the superconducting properties of epitaxial Nb thin films grown on sapphire., C. Clavero, D. Beringer, W. M. Roach, J. R. Skuza. K. C. Wong, A. D. Batchelor, C. E. Reece and R. A. Lukaszew.
- 57th AVS International Symposium , Albuquerque, New Mexico (October 2010).
 - Contributed talk: Probing Induced Magnetism in Vanadium Nanoislands on Cr by Spin-polarized STM, C. Clavero, M. Bode, G. Bihlmayer, S. Blügel, R. A. Lukaszew, 57th AVS International Symposium , Albuquerque, New Mexico (October 2010). **Note: *The MIND postdoctoral awards was granted to Cesar Clavero for his presentation.***
 - Contributed talk: Correlated Structural and Magnetic Studies of Capping and Seed Layer Dependent Epitaxial FePd Thin Films, L. Wang, J.R. Skuza, T. Mewes, C. Clavero, R.A. Lukaszew. **Note: *Lei Wang was finalist for the MIND Leo Falicov graduate student award.***
 - Microstructural, Magnetic Anisotropy, and Magnetic Domain Structure Correlations in L10 Ordered Thin Films, J.R. Skuza, L. Wang, W. Chen, J. Lu, T. Mewes, C. Clavero, R.A. Lukaszew.
- IX Latin-American workshop on magnetism, magnetic materials and their applications (July 25-29, 2010), Manizales, Colombia. **Invited talk:** Magneto-plasmonic nanostructures.
- 11th Joint MMM-Intermag Conference (2010), Washington, DC.
 - “Direct observation of V magnetic polarization on antiferromagnetic Cr(001)”. C. Clavero, M. Bode, G. Bihlmayer, S. Blügel and R. Lukaszew, 11th Joint MMM-Intermag conference, Washington DC (January 2010).
 - “Magnetic anisotropy and domain structure in FePd thin films with perpendicular magnetic anisotropy”. J.R. Skuza, C. Clavero, K. Yang, B. Wincheski and R. Lukaszew, 11th Joint MMM-Intermag conference, Washington DC (January 2010).
 - “Surface plasmon resonance enhanced magneto-optical activity in core-shell Ag-Fe nanoparticles”. K. Yang, L. Wang, C. Clavero, K. Carroll, E. Carpenter and R.A. Lukaszew, 11th Joint MMM-Intermag conference, Washington DC (January 2010).
- AVS 56th International Symposium (2009), San Jose, CA.-
 - **Invited talk-** “Epitaxial Thin Films and Multilayers: Growth Mode, Microstructure and Physical Property Correlations”.

- AVS 56th International Symposium (2009), San Jose, CA.-contributed talk-“Correlated magnetic domain structure and magnetic anisotropy studies on epitaxial Au/FePd (001)/MgO(001) thin films”, J. R. Skuza, C. Clavero, K. Yang, R. Wincheski, R. A. Lukaszew

SESAPS-2009-Atlanta, GA. Three contributed presentations:

- “All-optical control of surface plasmon polaritons using the MIT phase transition in a VO₂ substrate”, P. Xu, I. Novikova, K. Yang, C. Clavero, R. A. Lukaszew
- “Transport Properties and Surface Morphology Correlated Studies on Graphene Formed by Si Desorption of 6H-SiC”, W. Roach, D. Beringer, J. Skuza, C. Clavero, R. A. Lukaszew
- “Enhancement of the magneto-optical activity in thin films via surface Plasmon resonance excitation”, K. Yang, C. Clavero, J. Skuza, R. A. Lukaszew
- Los Alamos Neutron Science Center(LANSCE) User Group Meeting-Santa Fe from September 30-October 1, 2009 –**Invited talk**-“Induced V magnetic polarization effects in V/Fe/V trilayers.
- CLEO 2009, Baltimore, USA, “Surface Plasmon Polaritons in Silver-Gold Sandwich Structure”, G. Zhu, H. Li, C. Clavero, K. Yang, A. Lukaszew, V. A. Podolskiy, M. A. Noginov.
- Los Alamos Neutron Science Center(LANSCE) User Group Meeting-Santa Fe from September 30-October 1, 2009 –**Invited talk**-“Induced V magnetic polarization effects in V/Fe/V trilayers.
- CLEO 2009, Baltimore, USA, “Surface Plasmon Polaritons in Silver-Gold Sandwich Structure”, G. Zhu, H. Li, C. Clavero, K. Yang, A. Lukaszew, V. A. Podolskiy, M. A. Noginov.
- 2009 American Physical Society March Meeting, Pittsburgh, PA, USA. “Field dependent enhancement of the magneto-optical Kerr effect by surface plasmon resonance”, C. Clavero, K. Yang, J. R. Skuza, R. A. Lukaszew.
- 2009 American Physical Society March Meeting, Pittsburgh, PA, USA. “Investigation of the early stages of graphene formation on 6H-SiC”, J. R. Skuza, C. Clavero, K. Yang, B. Wincheski, and R. A. Lukaszew.
- 2009 American Physical Society March Meeting, Pittsburgh, PA, USA. “Anisotropic Damping in Single-Crystalline Ni/MgO(001) studied by the Time-Resolved Magneto-Optical Kerr effect (TR-MOKE)”, K. Smith, A. Lukaszew, J. Skuza, C. Clavero, K. Yang, A. Reilly and G. Lupke..
- XI International Scanning Probe Microscopy Conference, Madrid, Spain. “Imaging magnetic nanostructures with tailored tips”. J.M. García-Martín, A. Cebollada, C. Clavero, R. A. Lukaszew, R. Clarke.
- XVIII International Materials Research Congress 2009, 16 - 21 August, Cancún, Mexico. “Tailored magneto-optical response in Au-Co-Au trilayers using Surface Plasmon Polaritons”, C. Clavero, J. R. Skuza, K. Yang, R. A. Lukaszew.
- Nanoscience + engineering, 2 - 6 August 2009, San Diego, USA. “Control of absorption loss in metallic films” Mikhail A. Noginov, Guohua Zhu, Mohammed Mayy, E. Mayy, Dwayne A. Bobb, A. V. Yakim, Heng Li, Patricia F. Mead, César Clavero, Kang Yang, Rosa A. Lukaszew, Viktor A. Podolskiy, Alexander V. Gavrilenko, Carla S. Mckinney, Vladimir I. Gavrilenko.
- MMM-2008 – Austin, Texas – **Invited talk** - Magneto-Optically Enhanced Surface Plasmon Resonance. R. A. Lukaszew, C. Clavero, J. Skuza, K. Yang and R. Wincheski.
- AVS-2008 – **Invited talk**- Recent Developments in magneto-plasmonic sensors. C. Clavero, J. Skuza, K. Yang and R. A. Lukaszew
- SESAPS-2008 – Raleigh, NC. –**Invited talk** - Plasmon Polariton Excitation and Enhancement of the Magneto-optical Activity. R. A. Lukaszew, C. Clavero, J. Skuza and K. Yang.
- SACNAS International Conference -2008 –Salt Lake City, Utah – **Invited talk**- Magneto-plasmonic materials. R. A. Lukaszew, C. Clavero, J. Skuza and K. Yang

- INTERMAG-Madrid (2008) - Highly anisotropic FePt L1₀ nanomagnets. R. A. Lukaszew, C. Clavero and J. Skuza.
- International Symposium on Spectral Sensing Research - ISSSR – Hoboken NJ (2008) – Magneto-Optically Enhanced Surface Plasmon Resonance Sensing. R. A. Lukaszew, C. Clavero, J. Skuza and K. Yang.
- SPIE-Nanostructures and plasmonics. San Diego, CA (2008). Magneto-plasmonics. R. A. Lukaszew, C. Clavero, J. Skuza and K. Yang.
- 17th International Materials Research Conference IMRS-Cancun (2008) – *Invited talk* -Correlated structural and Raman studies on exfoliated graphene. R. A. Lukaszew, C. Clavero, J. Skuza and W. Roach.
- Gordon Research Conference: Magnetic nanostructures. (2008)-Aussois, France
- APS March Meeting (2008). New Orleans, LA. (1) Low T magnon condensation in FePd and FePt nanoparticulate films; (2) Induced V magnetic polarization effects in V/Fe/V trilayers. R. A. Lukaszew, C. Clavero, J. Skuza and K. Yang.
- MORIS 2007 - Fabrication and real time characterization of highly anisotropic nanomagnets, J. R. Skuza, C. Clavero, R. A. Lukaszew, D. A. Walko, and R. Clarke - Workshop on Thermal and Optical Magnetic Materials and Devices (2007).
- TNT (2007): Trends in Nanotechnology in San Sebastian, Spain (2007). Surface plasmon resonance effects in the magneto-optical activity of noble metal-ferromagnet ultrathin films, A. García-Martín, J. B. González-Díaz, G. Armelles, J.M. García-Martín, C. Clavero, A. Cebollada, R. Clarke, D. Kumah, R.A. Lukaszew, and J. R. Skuza,
- ANL-APS (2007) Real time thermal annealing studies of nanostructured FePt thin films," J. R. Skuza, R. A. Lukaszew, E. M. Dufresne, and D. A. Walko, poster presented at Users Week at Argonne National Laboratory (2007).
- 16th International Materials Research Conference, Cancun, Mexico (October 28-31, 2007). (Invited talk)
- MMM-2007- *Fabrication and real time characterization of highly anisotropic nanomagnets*, J. R. Skuza, C. Clavero, R. A. Lukaszew, D. A. Walko, and R. Clarke, 52nd Magnetism & Magnetic Materials Conference in Tampa, FL (2007).
- MMM-2007. *Ultrafast Magnetization Dynamics of Epitaxial Ni films on MgO (001)*. K. Smith, A. Petersen, H. Zhao, R. A. Lukaszew, G. Luepke and A. Reilley. Tampa, 52nd Magnetism & Magnetic Materials Conference in Tampa, FL (2007).
- MMM-2007. *Pd overlayer polarization effects in highly ordered FePd nanoparticled films*. C. Clavero, A. Cebollada, Y. Choi, D. Haskel and R. A. Lukaszew, 52nd Magnetism & Magnetic Materials Conference in Tampa, FL (2007).
- MMM-2007. *Ultrafast Laser Induced Exchange Biasing and Excitation of Uniform Mode Spin Waves in IrMn/Co and FeMn/Co*. A. Reilley, K. Seu, K. Smith, H. Zhao, A. Petersen, R. A. Lukaszew and G. Luepke. 52nd Magnetism & Magnetic Materials Conference in Tampa, FL (2007).
- AVS-2007. *Optical, magnetic and magneto-optical properties of noble-metal/ferromagnet nano-composite materials*. R. A. Lukaszew, J. R. Skuza, M. N. Sestak, and N. Dushkina. AVS 54th International Symposium in Seattle, WA (2007).
- AVS-2007. *Fabrication and real time characterization of highly anisotropic magnetic nanostructures*, J. R. Skuza, C. Clavero, R. A. Lukaszew, D. A. Walko, and R. Clarke, AVS 54th International Symposium in Seattle, WA (2007).
- MRS-2007. *Nanofabrication and characterization of magneto-plasmonic materials*. J. R. Skuza, C. Clavero, M. N. Sestak, N. M. Dushkina, and R. A. Lukaszew. MRS Fall 2007 Meeting, Boston, MA
- APS-2007. Denver, CO *Real time thermal annealing studies in FePt thin films and nanostructures*. J. R. Skuza, M. N. Sestak, R. A. Lukaszew, D. A. Walko, C. Clavero, and A. Cebollada.

- APS-2007. Denver, CO. *Optical and magneto-optical properties of nano-composite noble metal-ferromagnetic thin films*. M. N. Sestak, J. R. Skuza, and R. A. Lukaszew.
- APS-2007. Denver, CO. *Structure and morphology of (111) textured Au/Co/Au trilayers grown on glass by MBE*. D. Kumah, J. R. Skuza, A. Cebollada, C. Clevaro, J. M. Garcia Martin, R. A. Lukaszew, and R. Clarke.
- MRS-2007- San Francisco, CA. *Optical and magneto-optical properties of nano-composite noble metal-ferromagnetic thin films*. M. N. Sestak, J. R. Skuza, and R. A. Lukaszew.
- TNM '06. Trends on Novel Materials, International Conference, Santa Marta, Colombia (October 2006). Invited talk: Highly Anisotropic Nanomagnets
- XV IMRC'06, Cancun, Mexico (August, 2006). **Two Invited talks**, Symposium 7: Synchrotron Radiation and Neutron Sources in Materials Research: 'Novel Annealing Treatments Applied to Binary Alloy Thin Films', and Symposium 22: Non molecular Solids: 'Nanostructure and Magnetism in FePd and FePt in Thin Film Form'.
- MRS Fall '06 – Boston, MA. "Magnetoplasmonics nanobiosensors for high sensitivity interrogation," L. M. Lechuga, B. Sepulveda, J. M. Garcia-Martin, R. Asenjo, A. Garcia-Martin, J. B. Gonzalez-Diaz, A. Cebollada, G. Armellas, R. Clarke, D. Kumah, R. A. Lukaszew, and J. R. Skuza.
- 53rd AVS International Symposium. San Francisco, CA (2006). "Novel annealing treatments applied to binary alloy thin films," J. R. Skuza, R. A. Lukaszew, E. M. Dufresne, C. Cionca, R. Clarke, and A. Cebollada.
- Sigma-Xi'06 – Detroit, MI. "Surface plasmon resonance studies on Ag thin films," M. N. Sestak, J. R. Skuza, R. A. Lukaszew, and N. M. Dushkina, poster presented at the Sigma Xi Conference in Detroit, MI (2006). Blue ribbon award.
- APS Users '06 DOE/BES Users meeting. (Argonne, May 1-5, 2006). Invited presentation: "Highly anisotropic nano-magnets", R. A. Lukaszew. One contributed poster presentation: "L10 Order and X-Ray Rapid Thermal Annealing in FePt Thin Films", R. A. Lukaszew, J. Skuza, E. Dufresne, C. Cionca, A. Cebollada and C. Clavero.
- Ohio Nano Summit '06. Coumbus, OH. Real-time structural modification and probing of FePt nanostructures using undulator radiation," J. R. Skuza, R. A. Lukaszew, and E. M. Dufresne.
- MRS Spring'06, San Francisco, CA. "L10 order in FePt thin films and x-ray rapid thermal annealing (XRTA)," J. R. Skuza, R. A. Lukaszew, C. Clavero, A. Cebollada, and E. M. Dufresne.
- APS March'06- Baltimore, MD (2006). . "L10 order in FePt thin films and x-ray rapid thermal annealing (XRTA)," J. R. Skuza, R. A. Lukaszew, E. M. Dufresne, C. Cionca, A. Cebollada, C. Clavero, and C. Lind.
- Intermag (2006). IEEE International Magnetics Conference, San Diego, CA (May 8-12, 2006). One contributed talk: "Highly ordered FePd and FePt nanostructures", R. A. Lukaszew, J. Skuza, A. Cebollada, C. Clavero and J. M. Garcia-Martin.
- ICON'06. International Conference on Nanoscience, Venezuela (7-11 May, 2006, Choroní, Venezuela). Contributed presentation: "Combining plasmonic and magneto optical activity as way to control light in active nano-optical devices", J. B. Gonzalez-Diaz, A. Garcia-Martin, G. Armelles, J.M. Garcia-Martin, C. Clavero, R. Clarke, D. Kumah, R. A. Lukaszew and J. Skuza.
- 16th Magnetic Recording Conference, (TMRC 2005, Stanford, CA, August 15-17, 2005). Contributed Presentation: "Highly anisotropic nano-magnets". R. A. Lukaszew, J. Skuza, A. Cebollada, C. Clavero and J. M. Garcia-Martin.
- 50th MMM Annual Conference on Magnetism and Magnetic Materials (San Jose, CA, Oct.30-Nov.3, 2005). One contributed talk: "Observation of induced magnetic moment on nitrogen in Fe-N thin films using x-ray magnetic circular dichroism", C. Sanchez-Hanke, R. Gonzalez-Arrabal, J. Prieto, E. Andrzejewska, N. Gordillo, D. Boerma, J. Skuza and R. A. Lukaszew.

- LAW3M'05: VIII Latin-American Workshop on Magnetism, Magnetic Materials and their Applications, Reñaca, Chile, Dec. 12-16, **Invited talk**: “Structure and magnetic property correlations in magnetic nanostructures”. R. A. Lukaszew.
- 2005 APS March Meeting, March 21-25, 2005. Los Angeles, CA. Two contributed presentations: “Nanostructural effects on the magnetic anisotropy in epitaxial thin films”. M. Mitra, S. te Velthuis and R. A. Lukaszew; “Time-resolved spin dynamics studies of ferromagnetic thin films grown by molecular beam epitaxy”, V. Stoica, R. A. Lukaszew, and R. Clarke.
- SPIE International Symposium on Microtechnologies for the New Millennium 2005, 9-11 May 2005 Seville, Spain. **Invited talk** “Self-assembled NiO nano-wires on epitaxial Ni films”. R. A. Lukaszew.
- E-MRS'05. Spring 2005 International European-MRS Meeting, Strasbourg, France, May 30-Apr. 3. NSF-Europe grantees meeting. “Highly anisotropic nano-magnets”. R. A. Lukaszew and A. Cebollada.
- XIV IMRC'05: International Materials Research Congress, Cancun, Mexico, August 22-26 (2005). **Invited talk**. “Iron Nitride Thin Films, Magnetic and Magneto-Transport Properties”. R. A. Lukaszew.
- ECOSS 23: European Conference on Surface Science, Berlin, Germany - 4-9 September 2005. Two contributed presentations; “Structural and surface analysis of thin-film ZnTe formed with pulsed-laser deposition”, A. Erlacher, R. A. Lukaszew, H. Jaeger, B. Ullrich; “Highly ordered L10 FePt nanomagnets”, Rosa Alejandra Lukaszew, Alfonso Cebollada Navarro, Jose-Miguel García Martín, Mukut Mitra, Cesar Clavero Pérez.
- AVS 52th International Symposium, Boston, MA. Oct. 31-Nov 4, 2005. Three contributed presentations: “Correlated AFM/MFM and Magneto-Optical Studies on Epitaxial L10 FePd thin films”, R. A. Lukaszew, J. Skuza, A. Cebollada, C. Clavero and J.M. Garcia-Martin; “Magnetic Properties of Epitaxial FeN Thin Films II”, R. A. Lukaszew, R. Gonzalez, C. Sanchez-Hanke, R. Loloee and D. Boerma; “Surface and Texture Characterization of Thin-Film ZnTe Formed with PLD”, A. Erlacher, R. A. Lukaszew, H. Jaeger and B. R. Ullrich.
- 2004 APS March Meeting, March 22-26, 2004, Montreal, Canada. Two contributed presentations: “Domain wall effects on the magnetoresistance in epitaxial nanostructures”, D. Pearson, A. Zambano, R. A. Lukaszew. “Magnetic properties of epitaxial FeN thin films I”, R. A. Lukaszew, D. Pearson, R. Loloee and C. Sanchez-Hanke.
- SXNS: 8th international conference on Surface X-ray and Neutron Scattering. Bad Honnef (Germany) 6/28 – 7/2, 2004. “Modulated circularly polarized soft x-ray scattering: an element specific tool for the study of induced magnetic moments, magnetic interfaces and nanostructures”. C. Sanchez-Hanke, R. A. Lukaszew, Y.-L. Soo, and C.-C. Kao.
- XIII IMRC'04: International Materials Research Congress, Cancun, Mexico, August 22-26(2004). “Magneto-transport Studies in Nano-contacts patterned on Epitaxial Ferromagnetic Thin Films”. R. A. Lukaszew (**Invited**)
- 51th AVS International Symposium, 11/14-19, 2004, Anaheim, CA. Two contributed presentations: “Enhanced Magnetic Moment in Iron Nitride Thin Films”, R. A. Lukaszew, D. Pearson. R. Lolee, C. Sanchez-Hanke and Z. Zhang. “Magneto-resistance in Epitaxial Nano-Contacts for Spintronic Device Applications”, D. Pearson, R. A. Lukaszew.
- 2003 InterMag, International Conference on Magnetism (Rome, Italy). Contributed presentations: “Crystal Field, Surface morphology and anisotropy in epitaxial (001) Ni films”. R. A. Lukaszew, Z. Zhang, D. Pearson, and A. Zambano; “Epitaxial Ni films, e-beam nanopatterning and BMR”, R. A. Lukaszew, Z. Zhang, D. Pearson, and A. Zambano; “Self-assembled surface nano-patterning and magnetic anisotropy”, R. A. Lukaszew, Z. Zhang, V. Stoica and R. Clarke
- STM'03 Conference (Eindhoven, Netherlands) Proceedings-AIP. Contributed: “Surface Morphology And Magnetic Anisotropy”, R. A. Lukaszew, Z. Zhang, V. Stoica and R. Clarke
- Surface Analysis 2003, Urbana, Illinois, June 3-6, 2003, **Invited talk**. “Surface morphology and structure effects on magnetic anisotropy in epitaxial films”, R. A. Lukaszew and Z. Zhang.

- ICMAT-2003, Singapore, Dec. 2003. One invited and one contributed talk. “Magnetic and structural properties of epitaxial Ni films”, R. A. Lukaszew (*Invited talk*). “Magneto transport properties in nano-patterned epitaxial Ni films”, R. A. Lukaszew, D. Pearson, Z. Zhang and A. Zambano.
- 50th International AVS Meeting, Baltimore, Maryland, 11/2-7, 2003 two contributed presentations. “Magnetization Dynamics and Magneto-transport in Epitaxial Nano-structures”, R. A. Lukaszew, D. Pearson and Z. Zhang. “Correlated Structural and Magnetization Reversal Studies on Epitaxial Ni films grown with MBE and sputtering”, Z. Zhang, R. A. Lukaszew, A. Zambano, C. Cionca, D. Walko, E. Dufresne, M. Yeadon and R. Clarke.
- MRS-Spring '03. San Francisco, CA, contributed talk. ‘Magneto-resistance in patterned nano-bridges on epitaxial Ni films’, R. A. Lukaszew and A. Zambano
- LAW3M’03: VI Latin-American Workshop on Magnetism, Magnetic Materials and their Applications, Chihuahua, Mexico, April 7-11, 2003, “Surface morphology, structure and magnetic anisotropy in epitaxial Ni films”, R. A. Lukaszew, Z. Zhang, D. Pearson, C. Cionca, A. Zambano and R. Clarke.
- 2003 AAPT meeting, Austin, Texas, Jan 11-15, 2003. “A New Concept for Intermediate Electronics Labs Using Graphical Programming”, R. A. Lukaszew and D. Twyford.

(f) Other synergistic activities

- Over **25 reports of restricted circulation** in the area of materials of interest in nuclear energy and their characterization – Argentina National Atomic Commission (1980-1990). Various presentations for the Annual Meetings of the Nuclear Technology Argentinian Association (1980-1990).
- **Invited Editor and author in multi-author book on Nanomagnetism. (Panstanford Publising). To be published in 2013.**
- **Two patents awarded (US 8,143,072 and US 6,535,365) and one pending.**
- Cottrell Scholar (2004). Research Corporation.
- Master Teacher (2006-2007). University of Toledo, OH.
- Outreach Community Science Activities: Physics Summer Camps at the University of Toledo (2001-2006), Saturday Morning Science program at the University of Toledo (2004-2007). Science Fair judge (2006-2007-Ohio). Laserfest (College of William and Mary, 2010)
- Sigma-Xi president elect (2004), Toledo-chapter, University of Toledo, Ohio. Member since 2001. Phi-Kappa-Phi member, University of Toledo, Ohio.
- Proposal Reviewer (AAAS, NSF, ACS, NRC, etc.). Manuscript reviewer (Nanoletters, Nanotechnology, Optics Letters, Optics Express, Appl. Phys. Lett., etc.). Research Conference chair (APS, AVS, MMM, etc.).

(g) Funding: \$10,000,000.00 in external funding from various federal, local and private sources (2001-present)

- 08/15/2012-08/14/2015. DOE. New Photocathode Materials for electron-ion colliders. Total grant amount: **\$285,000.00**
- DOE-HEP (continued) Investigation of New Superconducting Materials for the Next Generation High-Gradient RF cavities for particle accelerators. Award: DE-SC0010081. Lead Institution: ODU. W&M; Subcontract (5/1/2013-4/30/2016). Sub-award amount: **\$214,000.00**
- 08/10/2010-08/09/2015. NSF-DMR Plasmon Resonances and Metal Insulator Transitions in Highly Correlated Thin Film Systems. Agency: NSF. PI: Lukaszew. Co-PI: I. Novikova. Grant amount: **\$390,000.00**
- TJNACF-FEL, SSRL program. 9/01/2011- 5/31/2012. FEL internship. Total grant amount: **\$21,777.00**

- JNACF, Engineer support. 8/1/2007-4/30/2013. Total grant amount: **\$140,000.00**
- NRI-VMC. 10/15/2010-10/14/2012. Phase Transition switches based on the electrically induced Metal-Semiconductor Transition in VO₂. (Subcontract) PI: Lukaszew. Total grant amount: **\$1,700,000.00**
- DARPA-Grandis. 04/13/2010-12/31/2012. PI: Lukaszew. Grant amount: **\$120,000.00**.
- DTRA- Proposal Number BRBAA08-Per3-B-2-0032: Development of proof of concept of SRF cavity thin film coatings capable of sustaining large field gradients. (2010-2015). Funded at \$350,000/year for three years with provision for two additional years at same level. PI: Lukaszew. Total grant amount: **\$1,750,000.00**
- 9-1-2009/8-31-2012. DOE (DE-PS02-09ER09-05). SRF-Thin Films- (Subcontract) PI: R. A. Lukaszew "Development and Characterization of Thin Film SRF Surfaces for Accelerator Cavities. Total grant amount: **\$1,500,000.00**
- 6-1-2006/5-31-2010. NSF-DMR (Grant # 0605661). PI: Lukaszew. Co-PI A. Reilley. Title: Collaborative Research: Ultrafast Laser Study and Modification of Anisotropy in Ferromagnetic Thin Films. Grant amount: **\$ 398,891.00**.
- VMEC Scholars program (2008-12). PI: Lukaszew. Grant amount: **\$ 150,000.00**
- NIA-Faculty fellowship at NASA-Langley (2008). PI: Lukaszew. Grant amount: **\$18,000.00**
- Start-up package at W&M: **\$1,000,000.00**
- 12/2006-8/2008. DOD-DARPA. Co-PI: Lukaszew. Title: "Novel sensors for chemical and bio-defense". Grant amount: **\$998,000.00**
- 6-1-2004/5-31-2008. NSF-DMR (Grant # 0355171). PI: Lukaszew. Title: "Highly anisotropic nano-magnets". Grant amount: \$130,184.00. UT Contribution: 85,792.00. Total amount: **\$ 215,975.00**
- 9-01-04/ 8-31-2009. Petroleum Research Fund, ACS. PI: Lukaszew. Title: "Magnetic nanostructures". Grant amount: \$80,000.00. UT contribution: \$80,646.00. Total amount: **\$160,646.00**
- 5-01-05/8-31-2009. Summer Fellowship Addition to Petroleum Research Fund, ACS. PI: Lukaszew. Title "Magnetic nanostructures". Grant amount: **\$24,000.00**
- 6-1-2004/5-31-09-Research Corporation-Cottrell Scholar. PI: Lukaszew. Title: "Investigating the structural and magnetic properties of nano-magnets". Grant amount: \$ 75,000.00. UT Contribution: \$91,465.00. Total amount: **\$166,465.00**
- 4-1-2004/31-3-2007. NSF -REU-site: "Research Experience for Undergraduates". (Grant # 0353899). Co-PI: Lukaszew. Grant amount: \$210,000.00. UT contribution: \$76,808.00. Total amount: **\$286,808.00**
- 5-1-2004/30-6-2004. American Association for the Advancement of the Science, WISC program. PI: Lukaszew. Title: "Magneto-transport studies on chemically ordered alloys". Amount: **\$4,000.00**
- 7-1-2003/12-31-2004. DOE subcontract (PI at UT: Lukaszew. Wayne State University: primary institution for DOE grant, PI at WSU: Cormier) "Alternative use of photonic crystals to allow low loss of visible light". Grant amount: \$40,000.00. UT Contribution: \$ 20,804.00. Total amount: **\$60,804.00**
- 5-15-2003/8-15-03-University of Michigan-NSF-FOCUS fellowship. Title: "Ultrafast MOKE studies on magnetic thin films". PI: Lukaszew. Amount: **\$17,347.00**
- 7-1-2002/8-31-2002. Michigan State University-NSF-CFMR Academic Affiliates Program. Lukaszew visiting scholar. Amount: **\$4,500.00**
- Start-up package at the University of Toledo: **\$300,000.00**
- Miscellaneous equipment from Ford Motor Research Company with estimated value of **\$500,000.00**
- Miscellaneous equipment from General Motor Research Center with estimated value of **\$500,000.00**

(h) Academic Activities

- Undergraduate student advisor (Sophomore/Junior/ Senior Research. Total of 25 undergraduates). Graduate student advisor (Doctoral Thesis Research and Master Thesis Research. Total of 12 graduate students). Postdoctoral mentor.
- Develop and taught various undergraduate and graduate courses: Applied Science Special Topics Seminar (graduate course); Special Topics in Electromagnetism (graduate course); Physics of Thin Films (graduate course); Electromagnetic Fields (undergraduate course); Electronics (undergraduate course); Interdisciplinary Honors Seminar (undergraduate course); Research Methods in Physics (undergraduate course); Physics Journal Seminar (graduate course); Calculus-based Introductory Physics-Honors (undergraduate course); Non-calculus based Introductory Physics (undergraduate course), Modern Physics (undergraduate course); Topics in Physics for Science High-School Teachers (Graduate course); Introductory Astronomy. Lecture and laboratory (undergraduate course); Physics and Theater/ Physics and the Arts (Interdisciplinary undergraduate freshman seminars). Developed new courses for the new curriculum of the College of Arts and Sciences at the College of William and Mary (2014): “Scales of the Universe” and “Physics and the Arts”.

(i) Professional Service/management skills

- Virginia Microelectronics Consortium (VMEC): Operations Committee member (2007-present) VMEC Scholars Program Chair (2010-11).
- Faculty Research Committee Chair (2012-present). Reports directly to the Provost.
- Editor for the journal Advances in Condensed Matter Physics, Hindawi Publishing Corporation. (2008-present)
- Reviewer for several journals in the field (PRB, JAP, APL, etc.)
- AVS: Thin Films (TFD) and Magnetic Interfaces and nanostructures divisions (MIND) Executive Committee member. MIND Chair (2009-10).
- Panelist for the National Academy of Science (2009-10) for the Ohio Third Frontiers program.
- Center for Nanoscale Materials, Argonne National Laboratory, proposal reviewer.
- NSF, DOE, DOD proposal reviewer
- Michigan AVS Chapter Chapter executive committee member. Annual Symposia Chair (2001-07).
- Mid-Atlantic AVS Chapter executive committee member (2007-present)
- U.Toledo-chapter of the Sigma-Xi Research Society president elect (2004), University of Toledo, Ohio.