

**TENURE AND PROMOTION CURRICULUM VITAE  
OF  
FRANCISCO FERNANDEZ-LIMA  
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY  
(Last updated November 19 2016)**

**EDUCATION**

<b>Degree</b>	<b>Institution</b>	<b>Field</b>	<b>Dates</b>
PhD	Pontific Catholic University Rio de Janeiro, Brazil	Applied Physics	2003-2006
MS	Institute of Nuclear Sciences and Technology Havana, Cuba	Nuclear Physics	2001-2003
BS	Institute of Nuclear Sciences and Technology Havana, Cuba	Nuclear Physics	1996-2001

**FULL-TIME ACADEMIC EXPERIENCE**

<b>Institution</b>	<b>Rank</b>	<b>Field</b>	<b>Dates (Month &amp; Year)</b>
Texas A&M University College Station, TX	K99 post-doctoral fellow (NIH/NIGMS fellow)	Chemistry	Sept, 2010-Jun, 2012
Texas A&M University College Station, TX	post-doctoral fellow	Chemistry	Jan, 2007-Aug, 2010
Federal University of Rio de Janeiro, Brazil	post-doctoral fellow (CNPq fellow)	Chemistry	Jul, 2006-Dec, 2006
Pontific Catholic University of Rio de Janeiro, Brazil	graduate student (CLAF fellow)	Applied Physics	Sept, 2003-Jul, 2006
Institute of Nuclear Sciences and Technology, Havana, Cuba	research scientist	Nuclear Physics	Sept, 2001-Aug, 2003

**PART-TIME ACADEMIC EXPERIENCE (list most recent first)**

<b>Institution</b>	<b>Rank</b>	<b>Field</b>	<b>Dates (Month &amp; Year)</b>
N/A			

**NON-ACADEMIC EXPERIENCE**

<b>Place of Employment</b>	<b>Title</b>	<b>Dates</b>
N/A		

**EMPLOYMENT RECORD AT FIU**

<b>Rank</b>	<b>Dates</b>
Assistant Professor	Jun, 2012 - present

## PUBLICATIONS IN DISCIPLINE

## Books

N/A

**Articles** (students and post-doctoral fellows are single and double underline, respectively and \* denotes corresponding author).

Full text is available online at <http://faculty.fiu.edu/~fernandf/publications.html> and citation indexes at <https://scholar.google.com/citations?user=qDzVEjcAAAAJ&hl=en&oi=ao> .  
Notice that some journals are not included in the Web of Science database.

76. P. Benigni, R. Marin, K. Sandoval, P. Gardinali, **F. Fernandez-Lima**, “Chemical Analysis of Water-Accommodated Fractions of Crude Oil Spills using TIMS-FT-ICR MS”. *JoVE*. (in press) 2016. IF = 1.3; times cited: 0

75. P. Benigni, C. Bravo, J. M. E. Quirke, J. D. DeBord, A. M. Mebel, **F. Fernandez-Lima**, “Analysis of geologically relevant metal-porphyrins using Trapped Ion Mobility Spectrometry-Mass Spectrometry and theoretical calculations”. *Energy and Fuels*, DOI:10.1021/acs.energyfuels.6b02388. IF = 2.8; times cited: 0

74. A. Garabedian, D. Butcher, J. L. Lippens, J. Miksovská, P. Chapagain, D. Fabris, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima\***, “Structures of kinetically trapped i-motif DNA intermediates”. *Phys. Chem. Chem. Phys.* 18 (38), 26691-26702, 2016. IF = 4.5; times cited: 0

73. K. Adams, J. D. DeBord, **F. Fernandez-Lima\***, “Lipid specific molecular ion emission as a function of the primary ion characteristics in TOF-SIMS”. *J. Vac. Sci. Technol. B.* 34, 051804, 2016. IF = 1.4; times cited: 0

72. Q. P. Vanbellingen, A. Castellanos, M. Rodriguez-Silva, I. Paudel, J. W. Chambers, **F. Fernandez-Lima\***, “Analysis of chemotherapeutic drug delivery at the single cell level using 3D-MSI-TOF-SIMS”, *J. Am. Soc. Mass Spectrom.* 27, 2033-2040, 2016. IF = 3.0; times cited: 0

71. A. Castellanos, S. Bell, **F. Fernandez-Lima\***, “Characterization of Firearms Discharge Residue Recovered from Skin Swabs using Sub-micrometric Mass Spectrometry Imaging”, *Anal. Methods.* 8, 4300-4305, 2016. IF = 1.8; times cited: 0

70. C. E. Ramirez, M. Nouzova, P. Benigni, J. M. E. Quirke, F. G. Noriega, **F. Fernandez-Lima\***. “Fast, ultra-trace detection of Juvenile Hormone III from mosquitoes using mass spectrometry”. *Talanta* 159, 371-378, 2016. IF = 4.0; times cited: 0

69. W. G. Gonzalez, V. Ramos, M. Diaz, A. Garabedian, C. Molano, **F. Fernandez-Lima**, J. Miksovská\*, “Characterization of the photophysical, thermodynamic and structural properties of the Terbium(III)-DREAM complex”. *Biochemistry*, 55(12), 1873-1886, 2016. IF = 3.0; times cited: 2

68. P. Benigni, **F. Fernandez-Lima\***, "Oversampling SA-TIMS coupled to FT-ICR MS: Fundamentals and Applications". *Anal. Chem.* 88 (14), 7404–7412, 2016. IF = 5.9; times cited: 0
67. **F. Fernandez Lima\***, "Trapped Ion Mobility Spectrometry: Past, Present and Future Trends", Editorial, *Int. J. Ion Mobil. Spectrom.* 19, 65-67, 2016. IF=1.1; times cited: 0
66. P. Benigni, R. Marin, J. C. Molano-Arevalo, A. Garabedian, J.J. Wolff, M. E. Ridgeway, M. A. Park, **F. Fernandez Lima\***, "Towards the analysis of high molecular weight proteins and protein complexes using TIMS-MS" *Int. J. Ion Mobil. Spectrom.* 19, 95-104, 2016. IF = 1.1; times cited: 0
65. K. J. Adams, D. Montero, D. Aga, **F. Fernandez-Lima\***, "Isomer Separation of Polybrominated Diphenyl Ether Metabolites using nanoESI-TIMS-MS". *Int. J. Ion Mobil. Spectrom.*, 19, 69-76, 2016. IF = 1.1; times cited: 2
64. P. Benigni, J. Daniel DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima\***, "Increasing Polyaromatic Hydrocarbon (PAH) Molecular Coverage during Fossil Oil Analysis by Combining Gas Chromatography and Atmospheric-Pressure Laser Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FT-ICR MS)". *Energy and Fuels*, 30 (1), 196–203, 2016. IF = 2.8; times cited: 2
63. A. McKenzie, J. D. DeBord, M. E. Ridgeway, M. A. Park, G. Eiceman, **F. Fernandez-Lima\***, "Lifetimes and Stabilities of familiar explosives molecular adduct complexes during ion mobility measurements". *Analyst*, 140, 5692-5699, 2015. IF = 4.1; times cited: 6
62. P. Benigni, R. Marin, **F. Fernandez-Lima\***. "Towards unsupervised theoretical PAH structural assignment from SA-TIMS –FTMS data" *Int. J. Ion Mobil. Spectrom.* 18:151–157, 2015. IF = 1.1; times cited: 4
61. L. Frost, M. A. M. Baez, C. Harrilal, A. Garabedian, **F. Fernandez-Lima**, F. Leng\* "The dimerization state of the mammalian high mobility group protein AT-hook 2 (HMGA2)." *PLoS One*, 10 (6), e0130478, 2015. IF = 4.0; times cited: 2
60. E. R. Schenk, R. Almeida, J. Miksovska, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima\***, "Kinetic intermediates of holo- and apo- myoglobin studied using HDX-TIMS-MS and molecular dynamic simulations." *J. Am. Soc. Mass Spectrom.* 26 (4), 555-563, 2015. IF = 3.0 times; cited: 7
59. P. Benigni, C. J. Thompson, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima\***, "Targeted high resolution ion mobility separation coupled to ultra-high resolution mass spectrometry of endocrine disruptors in complex mixtures". *Anal. Chem.* 87 (8), 4321–4325, 2015. IF = 5.8; times cited: 11
58. E. R. Schenk, F. Nau, **F. Fernandez-Lima\***. "Theoretical predictor for candidate structure assignment from IMS data of biomolecule-related conformational space". *Int. J. Ion Mobil. Spectrom.*, 18(1-2) 23-29, 2015. IF = 1.1; times cited: 4

57. E. R. Schenk, F. Nau, C. J. Thompson, Y.C. Tse-Dinh, **F. Fernandez-Lima\***, “Changes in lipid distribution in E. coli strains in response to norfloxacin”, *J. Mass Spectrom.* 50, 88–94, 2015. IF = 3.0; times cited: 1
56. A. Castellanos, P. Benigni, D. R. Hernandez, J. D. DeBord, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima\***, “Fast Screening of Polycyclic Aromatic Hydrocarbons using Trapped Ion Mobility Spectrometry - Mass Spectrometry”, *Anal. Methods*, 6, 9328-9332, 2014. IF = 2.0; times cited: 4
55. D. R. Hernandez, J. D. DeBord, M. E. Ridgeway, D. A. Kaplan, M. A. Park, **F. Fernandez-Lima\***. “Ion Dynamics in a Trapped Ion Mobility Spectrometer”. *Analyst*. 139(8) 1913-21, 2014. IF = 4.0; times cited: 31
54. J. D. DeBord, D. F. Smith, C. R. Anderton, R. M. A. Heeren, L. Paša-Tolić, R. H. Gomer, **F. Fernandez-Lima\***. “Secondary Ion Mass Spectrometry Imaging of *Dictyostelium discoideum* Aggregation Streams” *PLoS One*. 9(6):e99319, 2014. IF = 4.0; times cited: 3
53. J. C. Molano-Arevalo, D. R. Hernandez, W. G. Gonzalez, J. Miksovská, M. E. Ridgeway, M.A. Park, **F. Fernandez-Lima\***, “Flavin Adenine Dinucleotide structural motifs: from solution to gas-phase”, *Anal. Chem.*, 86(20):10223-30, 2014. IF = 5.8; times cited: 8
52. E. R. Schenk, M. E. Ridgeway, M. A. Park, F. Leng, **F. Fernandez-Lima\***. “Isomerization Kinetics of AT Hook Decapeptide Solution Structures”. *Anal. Chem.* 86(2), 1210-4, 2014. IF = 5.8; times cited: 22
51. E. R. Schenk, V. Mendez, J. T. Landrum, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima\***. “Direct observation of differences of Carotenoid polyene chain cis/trans isomers resulting from structural topology”. *Anal. Chem.* 86(4), 2019-24, 2014. IF = 5.8; times cited: 15
50. C. Lydon, J. D. DeBord, **F. Fernandez-Lima\***, “Analysis of complex mixtures of heteroatom hydrocarbons using TIMS-MS”. *Preprints - American Chemical Society, Division of Energy & Fuels*, 58(1), 949, 2013. (NPR); times cited: 0
49. **F. A. Fernandez-Lima**, J. D. DeBord, E. A. Schweikert\*, S. Della-Negra, K. Kellesberg, M. Smotherman, “Surface characterization of biological nanodomains using NP-ToF-SIMS”. *Surf. Interface Anal.* 45, 294-297, 2013. IF= 1.2; times cited: 4
48. M. J. Eller, S. V. Verkhoturov, **F. A. Fernandez-Lima**, J. D. DeBord, E. A. Schweikert\*, S. Della-Negra, “Simultaneous detection and localization of secondary ions and electrons from single large cluster impacts”. *Surf. Interface Anal.* 45, 529-531, 2013. IF = 1.2; times cited: 1
47. J. D. DeBord, **F. A. Fernandez-Lima**, S. V. Verkhoturov, E. A. Schweikert\*, S. Della-Negra, “Characteristics of positive and negative secondary ions emitted from  $Au_3^+$  and  $Au_{400}^{+4}$  impacts”. *Surf. Interface Anal.* 45, 134-137, 2013. IF = 1.2; times cited: 7
46. C. K. Liang, S. V. Verkhoturov, Y. Bisrat, S. Dikler, J. D. DeBord, **F. A. Fernandez-Lima**, E. A. Schweikert\*, S. Della-Negra, “Characterization of individual nano-objects with nanoprojectile-SIMS”. *Surf. Interface Anal.* 45, 329-332, 2013. IF = 1.2; times cited: 2

## BEFORE FIU

45. **F. A. Fernandez-Lima\***, M. J. Eller, J. D. DeBord, M. J. Levy, S. V. Verkhoturov, S. Della-Negra, E. A. Schweikert, "Analysis of Fluorescent Proteins with a Nanoparticle Probe". *J. Phys. Chem. Lett.* 3, 337–341, 2012. IF = 7.5; times cited: 2
44. **F. A. Fernandez-Lima\***, M.J. Eller, J.D. DeBord, S.V. Verkhoturov, S. Della-Negra, E.A. Schweikert, "On the Surface Mapping using Individual Cluster Impacts", *Nucl. Instr. and Meth. in Phys. Res. B* 273 , 270-273, 2012. IF = 1.2; times cited: 8
43. **F. A. Fernandez-Lima\***, M. A. Chaer Nascimento, E. F. da Silveira, "Alkali halide clusters produced by fast ion impact". *Nucl. Instr. and Meth. in Phys. Res. B* 273, 102-104, 2012. IF = 1.2; times cited: 6
42. **F. A. Fernandez-Lima**, A. Henkes, E. F. da Silveira, M. A. Chaer Nascimento\*, "Alkali halide nanotubes: structure and stability". *J. Phys. Chem. C*. 116 (8), 4965-4969, 2012. IF = 4.7; times cited:12
41. J.D. DeBord, **F. A. Fernandez-Lima**, S.V. Verkhoturov, S. Della-Negra, E.A. Schweikert\*, "Bi-directional Ion Emission from Massive Cluster Impacts on Nanometric Carbon Foils". *J. Phys. Chem. C*. 116 (14), 8138-8144, 2012. IF = 4.7; times cited:8
40. **F. A. Fernandez-Lima**, J. Post, J. D. DeBord, M. J. Eller, S. V. Verkhoturov, S. Della-Negra, A. S. Woods, E. A. Schweikert\*, "Analysis of native biological surfaces using a 100kV Massive Gold Cluster source". *Anal. Chem.* 83 (22), 8448–8453, 2011. IF = 5.8; times cited: 23
39. **F. A. Fernandez-Lima\***, D. A. Kaplan, M. A. Park, "Note: Integration of Trapped Ion Mobility Spectrometry with Mass Spectrometry". *Rev. Sci. Instrum.* 82, 126106, 2011. IF = 1.6; times cited: 33
38. **F. A. Fernandez-Lima\***, D. A. Kaplan, J. Suetering, M. A. Park, "Gas-phase separation using a Trapped Ion Mobility Spectrometer". *Int. J. Ion Mobil. Spectrom.* 14, 93-98, 2011. IF = 1.1; times cited: 46
37. **F. A. Fernandez-Lima**, V. T. Pinnick, S. Della-Negra, E. A. Schweikert\*, "Photon emission from massive projectile impacts on solids", *Surf. Interface Anal.*, 43 (1-2), 53–57, 2011. IF = 1.2; times cited: 8
36. **F. A. Fernandez-Lima**, M. J. Eller, S. V. Verkhoturov, S. Della-Negra, E. A. Schweikert\*, "Photon, Electron and Secondary Ion Emission from Single C<sub>60</sub> keV Impacts", *J. Phys. Chem. Lett.*, 1, 3510–3513, 2010. IF = 7.5; times cited: 13
35. **F. A. Fernandez-Lima**, R. Blase, D. H. Russell\*, "A Study of Ion-Neutral Collision Cross Section values for Low Charge States of Peptides, Proteins, and Peptide/Protein Complexes", *Int. J. Mass Spectrom.* 298(1-3), 111-118, 2010. IF = 2.0; times cited: 27

34. Z. Wu, **F. A. Fernandez-Lima**, D. H. Russell\*, “Amino acid influence on copper binding to peptides: Cysteine vs Arginine”, *J. Am. Soc. Mass Spectrom.*, 21(4), 522-533, 2010. IF = 2.9; times cited: 13

### BEFORE K99 phase

33. **F. A. Fernandez-Lima**, H. Wei, Y. Q. Gao, D. H. Russell\*, “On the structure elucidation using IMS and Molecular Dynamics”, *J. Phys. Chem. A*, 113(29), 8221-8234, 2009. IF = 2.7; times cited: 38

32. **F. A. Fernandez-Lima**, C. Becker, K. J. Gillig, W. K. Russell, S. E. Tichy, D. H. Russell\*, “An Ion Mobility-Mass Spectrometer Interface for Collisional Activation of Mobility Separated Ions”, *Anal. Chem.*, 81(2), 618–624, 2009. IF = 5.8; times cited: 17

31. Z. Wu, **F. A. Fernandez-Lima**, L. M. Perez, D. H. Russell\*. “A New Copper Containing MALDI Matrix that yields High Abundances of [Peptide + Cu]<sup>+</sup> Ions.”, *J. Am. Soc. Mass Spectrom.*, 20(7), 1263-1271, 2009. IF=3.0; times cited: 15

30. C. Becker, **F. A. Fernandez-Lima**, K. J. Gillig, W. K. Russell, S. Cologna, D. H. Russell\*. “A Novel Collision-induced Dissociation (CID) Experiment for Ion Mobility-Mass Spectrometry”, *J. Am. Soc. Mass Spectrom.*, 20(6), 907-914, 2009. IF = 3.0; times cited: 17

29. **F. A. Fernandez-Lima**, C. Becker, R. P. Rodgers, A. G. Marshall, D. H. Russell\*, “Petroleum Crude Oil Characterization using IMS-MS and FT-ICR-MS”, *Anal. Chem.*, 81(24), 9941–9947, 2009. IF = 5.8; times cited: 90

28. C. Becker, **F. A. Fernandez-Lima**, D. H. Russell\*. “Ion Mobility Mass Spectrometry: A Tool for Characterizing the Petroleome”, *Spectroscopy*, 24(3), 1-5, 2009. IF= NA; times cited: 14

27. **F. A. Fernandez-Lima**, O. P. Vilela Neto, A.S. Pimentel, C. R. Ponciano, M. A. Chaer Nascimento, E. F. da Silveira\*, “A Theoretical and Experimental Study of Negative LiF Clusters Produced by Fast Ion Impact on a Polycrystalline LiF Target”, *J. Phys. Chem. A*, 113 (52), 15031–15040, 2009. IF = 2.7; times cited: 13

26. **F. A. Fernandez-Lima**, T. M. Cardozo, E. F. da Silveira, M. A. Chaer Nascimento\*, “An experimental and theoretical description of the (NH<sub>3</sub>)<sub>n-1</sub>{NH<sub>3</sub>-H-H<sub>2</sub>O}<sup>+</sup> cluster ions produced by fast ion bombardment”, *Chem. Phys. Lett.* 474(1-3), 185-189, 2009. IF = 2.7; times cited: 1

25. **F. A. Fernandez-Lima**, O. P. Vilela Neto, A.S. Pimentel, C. R. Ponciano, M. A. C. Pacheco, M. A. Chaer Nascimento, E. F. da Silveira\*, “A theoretical and experimental study of positive and neutral LiF clusters produced by fast ion impact on a polycrystalline LiF target”, *J. Phys. Chem. A*, 113, 1813-1821, 2009. IF = 2.7; times cited: 31

24. **F. A. Fernandez-Lima**, C. Becker, K. J. Gillig, W. K. Russell, M. A. Chaer Nascimento, D. H. Russell\*, “Experimental and theoretical characterization of (CsI)<sub>n=1-7</sub>Cs<sup>+</sup> cluster ions produced by 355 nm Laser Desorption Ionization”, *J. Phys. Chem. A*, 112, 11061-11066, 2008. IF = 2.7; times cited: 27

**BEFORE Post-doctoral work**

23. **F. A. Fernandez-Lima**, C. R. Ponciano, E. F. Da Silveira\*. "UV laser induced desorption mechanism analyzed through ion recombination in alkaline halide plume". *J. Mass Spectrom.*, 43, 587–593, 2008. IF = 2.4; times cited: 6
22. **F. A. Fernandez-Lima**, C.R. Ponciano, E. Pedrero, E.F. da Silveira\*, "On the Coupling of Ion Mobility and MALDI-TOF", *Braz. J. Vac. Appl.*, 24( 2), 74-80, 2008. IF = 0.9; times cited: 2
21. E. Vigil\*, **F. A. Fernandez-Lima**, J. A. Ayllón, E. Pedrero, I. Zumeta, B. González, L. Curbelo, H. D. Fonseca Filho, M. E. H. Maia da Costa, C. Domingo, M. Behar and F. Zawislak, "TiO<sub>2</sub>-Cu<sub>x</sub>O three dimensional heterostructure obtained using short time photochemical deposition of Cu<sub>x</sub>O inside a porous nanocrystalline TiO<sub>2</sub> layer", *Microporous and Mesoporous Materials*, 109, 560–566, 2008. IF = 3.5; times cited: 9
20. **F. A. Fernandez-Lima**, C. R. Ponciano, E. F. Da Silveira, M. A. Chaer Nascimento\*, "Characterization of C<sub>n=2-16</sub> clusters produced by 337nm UV laser", *Chem. Phys. Lett.*, 445, 147-151, 2007. IF = 2.7; times cited: 13
19. **F. A. Fernandez-Lima**, T. M. Cardozo, R. M. Rodriguez, C. R. Ponciano, E. F. Da Silveira, M. A. Chaer Nascimento\*, "Characterization of (NH<sub>3</sub>)<sub>n=1-6</sub>NH<sup>+</sup> clusters produced by <sup>252</sup>Cf impact onto a NH<sub>3</sub> condensed target", *J. Phys. Chem. A*, 111(34), 8302-8307, 2007. IF = 2.7; times cited: 7
18. **F. A. Fernandez-Lima**, C. R. Ponciano, G. S. Faraudo, M. Grivet, E. F. Da Silveira, M. A. Chaer Nascimento\*, "Characterization of N<sub>n=2-18</sub><sup>+</sup> clusters produced by <sup>252</sup>Cf fission fragment impact on a N<sub>2</sub> ice target", *Chem. Phys.*, 340, 127-133, 2007. IF = 2.0; times cited: 8
17. G. Valdés-Díaz, S. Rodríguez-Calvo, A. Pérez-Gramatges\*, M. Rapado-Paneque, **F. A. Fernandez-Lima**, C. R. Ponciano, E. F. Da Silveira, "Effects of gamma radiation on phase behaviour and critical micelle concentration of Triton X-100 aqueous solutions", *J. Colloid Interf. Sc.*, 311, 253-261, 2007. IF = 3.4; times cited: 11
16. G Valdés-Díaz, S Rodríguez-Calvo, A Pérez-Gramatges, M. Rapado-Paneque, **F. A. Fernandez-Lima**, C. R. Ponciano, E. F. Da Silveira, "Estudio del efecto de la radiación gamma en el valor medio del número de grupos etoxilados del surfactante Tritón X-100", *Nucleus*, 41, 50-52, 2007. IF = 0.6; times cited: 0
15. **F. A. Fernandez-Lima\***, Y. Gonzalez-Alfaro, E.M. Larramendi, H.D. Fonseca Filho, M.E.H. Maia da Costa, F.L. Freire Jr., R. Prioli, R.R. de Avillez, E.F. da Silveira, O. Calzadilla, O. de Melo, E. Pedrero, E. Hernandez, "Structural characterization of chemically deposited PbS thin films", *Mat. Sci. Eng. B*, 136, 187-192, 2007. IF = 2.2; times cited: 9
14. **F. A. Fernandez-Lima**, C. R. Ponciano, H.D. Fonseca Filho, E. Pedrero, M. A. Chaer Nascimento, E. F. da Silveira\*, "UV laser induced desorption of CsI and RbI ion clusters", *Appl. Surf. Sci.*, 252, 8171-8177, 2006. IF = 2.5; times cited: 4

13. **F. A. Fernandez Lima**, C. R. Ponciano, E. F. da Silveira, M. A. Chaer Nascimento\*, “Characterization of  $C_{n=2-16}^+$  clusters produced by electronic sputtering”, *Chem. Phys. Lett.*, 426, 351-356, 2006. IF = 2.7; times cited: 15
12. **F. A. Fernandez-Lima**, C. R. Ponciano, M. A. Chaer Nascimento, E. F. Da Silveira\*, “Theoretical and Experimental Analysis of Ammonia Ionic Clusters Produced by  $^{252}\text{Cf}$  Fragment Impact on an  $\text{NH}_3$  Ice Target”, *J. Phys. Chem. A*, 110(33), 10018-10024, 2006. IF = 2.7; times cited: 13
11. **F. A. Fernandez-Lima**, J.A. Rodríguez, E. Pedrero, H.D. Fonseca Filho, A. Llovera, M. Riera, C. Dominguez, M. Behar, F.C. Zawislak\*, “Ion Beam Analysis of PECVD silicon oxide thin films”, *Nucl. Instr. and Meth. in Phys. Res. B* 243(1), 200-204, 2006. IF = 1.2; times cited: 8
10. **F. A. Fernández-Lima**, V. M. Collado, C. R. Ponciano, L. S. Farenzena, E. Pedrero, E. F. da Silveira\*, “Mechanism of insulin emission in matrix assisted laser ionization”. *Braz. J. Phys.*, 35(1), 170-174, 2005. IF = 0.9; times cited: 2
9. V. M. Collado, **F. A. Fernandez-Lima**, C. R. Ponciano, M. A. Chaer Nascimento, L. Velazquez, E. F. da Silveira\*, “Laser induced formation of CsI ion clusters analyzed by delayed extraction time-of-flight mass spectrometry”, *Phys. Chem. Chem. Phys.*, 7, 1971, 2005. IF = 4.5; times cited: 9
8. L. S. Farenzena, P. Iza, R. Martinez, **F. A. Fernandez-Lima**, E. D. Seperuelo, G. S. Faraudo, C. R. Ponciano, M. G. P. Homen, A. N. de Brito, K. Wien, E. F. da Silveira\*, “Electronic sputtering analysis of astrophysical ices”, *Earth, moon, and planets*, 97, 311-329, 2005. IF = 0.8; times cited: 29
7. Y. González-Alfaro, **F. A. Fernandez-Lima**, E. M. Larramendi\*, H. D. Fonseca Filho, M. E. H. Maia da Costa, F. L. Freire Jr., R. Prioli, R. R. de Avillez, E. F. da Silveira, O. Calzadilla, O. de Melo, E. Pedrero, E. Hernández, “Influence of a thin layer of a polymeric colloid on the substrate surface on the growth of polycrystalline thin films of PbS by chemical bath deposition”, *Phys. Stat. Sol. C*, 2(10), 3690, 2005. IF = 1.6; times cited: 2
6. V. M. Collado, C. R. Ponciano, **F. A. Fernandez-Lima**, E. F. da Silveira\*, “Analysis of ion dynamics and peak shapes for delayed extraction time-of-flight mass spectrometers”, *Rev. Sci. Instrum.*, 75(6), 2163-2170, 2004. IF = 1.6; times cited: 5
5. **F. A. Fernandez-Lima**, V. M. Collado, C. R. Ponciano, L. S. Farenzena, E. Pedrero, E. F. Da Silveira\*. “Laser ablation of CsI analyzed by delayed extraction”, *Appl. Surf. Sci.*, 217(1-4), 202-209, 2003. IF = 2.5; times cited: 8

#### BEFORE PhD

4. **F. Fernandez-Lima**, E. M. Larramendi, E. Purón, E. Pedrero, O. de Melo, D. L. Baptista, F. C. Zawislak\*. “Structural characterization of epitaxial  $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$  semiconductor thin films by ion beam techniques”, *J. Crystal Growth*, 253(1-4), 89-94, 2003. IF = 1.7; times cited: 2



3. **F. Fernandez-Lima**, E. Vigil, I. Zumeta, F.L. Freire Jr.\*, R. Prioli, E. Pedrero, “Rutherford backscattering spectrometry analysis of TiO<sub>2</sub> thin films”, *Mat. Charact.*, 50(2-3), 155-160, 2003. IF = 2.0; times cited: 3
2. **F. Fernandez-Lima**, D.L. Baptista, I. Zumeta, E. Pedrero, R. Prioli, E. Vigil, F.C. Zawislack\*, “Structural characterization of TiO<sub>2</sub> films grown using microwave-activated chemical bath deposition”, *Thin Solid Films*, 419(1-2), 65-68, 2002. IF = 1.9; times cited: 14
1. T. Garcia, E. de Posada, L. Ponce, J.L. Sanchez, S. Diaz, E. Pedrero, **F. Fernandez**, P. Bartolo-Perez\*, J.L. Peña, R. Diamant, J.A.M. Pereira. “Textured strontium ferrite thin films grown by PLD”, *Materials Letters*, 49, 294–298, 2001. IF = 2.5; times cited: 9

### Proceedings

N/A

### Chapters in Books

Chapter “Alkali Halide Clusters: Experiment and Theory”. Authors: **Francisco Fernandez-Lima**, Enio F. da Silveira, Marco Antonio Chaer Nascimento. Book: Halides: Chemistry, Physical Properties and Structural Effects. Editor: Jean Lefebure. 2013. Nova Publishers. ISBN: 978-1-62417-947-1.

### Government Reports or Monographs

N/A

### Book Reviews (give complete bibliographical references)

N/A

### OTHER PUBLICATIONS

N/A

### PRESENTED PAPERS, AND LECTURES (while at FIU)

1. **F. Fernandez-Lima**, “TIMS-MS for complex mixture analysis and structural biology”, 6<sup>th</sup> BrMASS, 1<sup>st</sup> Ibero American Conference in Mass Spectrometry, Rio de Janeiro, December 10-14, 2016. (invited speaker)
2. **F. Fernandez-Lima**. “Advantages of TIMS-TOF MS and TIMS-FT-ICR MS for Complex Mixture Analysis and Structural Biology”. LAKE LOUISE XXIX. 29th Workshop on Tandem Mass Spectrometry, Canada, December 1-3, 2016. (invited speaker)
3. **F. Fernandez-Lima**. “Development of TIMS-MS strategies for complex mixture analysis and structural biology”, 2nd International Conference on Innovations in Mass Spectrometry, Moscow, November 7-11, 2016 (invited speaker)
4. **P. Benigni, F. Fernandez-Lima**. “Structural Characterization of molecules in complex samples using TIMS coupled to FT-ICR MS”, Novel Instrumentation in Mass Spectrometry

- and Ion Mobility, Asilomar, October 14 - 18, 2016. (graduate student oral presentation)
5. **F. Fernandez-Lima**, “Trapped Ion Mobility Spectrometry”, Ecole Thematique du CNRS, Cabourg, October 17-20, 2016 (invited speaker)
  6. **F. Fernandez-Lima**, “From single cells to biomolecule structure and dynamics. What can we learn using mass spectrometry based tools?” Tenure and Promotion Seminar, Florida International University, September 2, 2016. (candidate oral presentation)
  7. **P. Benigni, F. Fernandez-Lima**, “Optimizing analytical tools for the structural characterization of molecules in complex samples by using High resolution IMS and FT-ICR MS” 21<sup>st</sup> International Mass Spectrometry Conference. Toronto, Canada. August 20-26, 2016. (graduate student poster presentation)
  8. **A. Castellanos, Q. Vanbellingen, M. Rodriguez- Silva, I. Paudel, J. Chambers, F. Fernandez-Lima**, “Drug delivery quantitation in single cells with sub micrometric spatial resolution TOF-SIMS.” 21<sup>st</sup> International Mass Spectrometry Conference. Toronto, Canada. August 20-26, 2016. (graduate student oral presentation)
  9. **P. O’Shea, P. Benigni, J. Porter, F. Fernandez-Lima**. “New Tools for the Analysis of Dissolved Organic Matter: OSA-TIMS- FT-ICR MS”, Summer Research Internship, Mini-Symposium, Florida International University, August 12, 2016. (high school student poster presentation)
  10. **F. Calero, A. Castellanos, F. Noriega, F. Fernandez-Lima**. “Monitoring Live Single Cell Dynamics using nanoESI-TIMS MS”. Summer Research Internship, Mini-Symposium, Florida International University, August 12, 2016. (high school student poster presentation)
  11. **F. Fernandez-Lima**. “Decoupling the mobility and time domain during IMS-MS: applications of TIMS for environmental, structural biology and complex mixture analysis”; 25th International Conference on Ion Mobility Spectrometry, July 24-28, 2016 in Boston, Massachusetts. (candidate oral presentation)
  12. **K. Adams, D. DeBord, C. E. Ramirez, R. H. Gomer, F. Fernandez-Lima**. “Localization and Identification of Biomarkers During Cell Differentiation using MSI-IMS-MS/MS” 25th International Conference on Ion Mobility Spectrometry, July 24-28, 2016 in Boston, Massachusetts. (graduate student poster presentation)
  13. **J. C. Molano-Arevalo, K. Pham, J. Miksovska, M. E. Ridgeway, M. A. Park, F. Fernandez-Lima**, “Characterization of Cytochrome c intramolecular interactions using nanoESI-HDX-TIMS-MS and molecular dynamics.” 25th International Conference on Ion Mobility Spectrometry, July 24-28, 2016 in Boston, Massachusetts. (graduate student poster presentation)
  14. **A. Garabedian, D. Butcher, J. L. Lippens, J. Miksovska, P. Chapagain, D. Fabris, M. E. Ridgeway, M. A. Park, F. Fernandez-Lima**, “Characterization of i-motif DNA kinetically trapped folding intermediates using nanoESI-TIMS-MS and molecular dynamics.” 25th International Conference on Ion Mobility Spectrometry, July 24-28, 2016 in Boston, Massachusetts. (graduate student poster presentation)
  15. **F. Fernandez-Lima (keynote speaker)**, “Decoupling the Time Scale In the IMS Analysis: Gas Phase Ion Trapping and Applications to Structural Biology”, Bruker Users Meeting at ASMS 2016, June 4, 2016, St. Antonio, TX.
  16. **Q. P. Vanbellingen, A. Castellanos, M. Nouzova, F. G. Noriega, F. Fernandez-Lima**, “Sub micrometric 3D analysis of mosquito ovaries using TOF-SIMS imaging.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (postdoctoral poster presentation)
  17. **P. Benigni, R. Marin, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park, P. Gardinali,**

- F. Fernandez-Lima.** “Understanding the oxygenation mechanism of hydrocarbons in the ocean utilizing SA-TIMS-FT-ICR MS”. ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
18. **R. Marin, P. Benigni, F. Fernandez-Lima.** “Unsupervised tridimensional chemical structure assignment based on SA-TIMS-FTICR MS accurate mass and mobility measurements for oxygenation products of hydrocarbons in the ocean.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (undergraduate student poster presentation)
  19. **K. Adams, D. DeBord, C. E. Ramirez, R. H. Gomer, F. Fernandez-Lima.** “Localization and Identification of Biomarkers During Cell Differentiation using MSI-IMS-MS/MS” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  20. **J. Rosenberg, A. Garabedian, F. Leng, F. Fernandez-Lima, J. Brodbelt.** “Characterization of a Protein-DNA Complex by Native Mass Spectrometry and Ultraviolet Photodissociation.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  21. **R. A. Villacob, P. Benigni, F. Fernandez-Lima,** “Development of ultra-high resolution NP-FT-ICR SIMS for surface analysis.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  22. **J. Porter, A. Garabedian, P. Benigni, J. Miksovskaa, F. Fernandez-Lima,** “Characterization of kinetically trapped intermediates of Microperoxidase-11 using TIMS-MS/MS and molecular modeling.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  23. **J. C. Molano-Arevalo, W. Gonzales, J. Miksovskaa, P. Maître, F. Fernandez-Lima,** “Insights from TIMS-MS, IR spectroscopy and molecular dynamics on Nicotinamide Adenine Dinucleotide structural dynamics: NAD<sup>+</sup> vs NADH.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (candidate oral presentation)
  24. **J. C. Molano-Arevalo, K. Pham, J. Miksovskaa, M. E. Ridgeway, M. A. Park, F. Fernandez-Lima,** “Characterization of Cytochrome c intramolecular interactions using nanoESI-HDX-TIMS-MS and molecular dynamics.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  25. **A. Castellanos, Q. Vanbellingen, F. Fernandez-Lima,** “Methodology for drug delivery quantitation in single cells using TOF-SIMS.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  26. **A. Garabedian, D. Butcher, J. L. Lippens, J. Miksovskaa, P. Chapagain, D. Fabris, M. E. Ridgeway, M. A. Park, F. Fernandez-Lima,** “Characterization of i-motif DNA kinetically trapped folding intermediates using nanoESI-TIMS-MS and molecular dynamics.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  27. **A. McKenzie, M. E. Ridgeway, M. A. Park, F. Fernandez-Lima,** “Decomposition Pathways during Explosive Analysis using TIMS-MS and molecular dynamics.” ASMS 2016, June 5 - 9, 2016, St. Antonio, TX. (graduate student poster presentation)
  28. **P. Benigni, F. Fernandez-Lima.** “Structural characterization using high resolution IMS coupled to FT-ICR MS.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student poster presentation)
  29. **A. Garabedian, F. Leng, P. Chapagain, F. Fernandez-Lima,** “Folding pathways of the DNA binding protein HMGA2: AT-hook peptide-DNA complexes.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student oral presentation)
  30. **J. C. Molano-Arevalo, W. Gonzales, J. Miksovskaa, P. Maître, F. Fernandez-Lima,** “Insights from TIMS-MS, IR spectroscopy and molecular dynamics on Nicotinamide Adenine

- Dinucleotide structural dynamics: NAD<sup>+</sup> vs NADH.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student oral presentation)
31. A. Castellanos, Q. Vanbellingen, M. Rodriguez-Silva, I. Paudel, J. Chambers, **F. Fernandez-Lima**, “Drug Delivery Quantitation and Localization at the Single Cell Level.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student oral presentation)
  32. J. Porter, A. Garabedian, P. Benigni, J. Miksovskaya, **F. Fernandez-Lima**, “Structural analysis of Microperoxidase-11.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student oral presentation)
  33. R. A. Villacob, P. Benigni, F. Fernandez-Lima, “development of ultra-high resolution surface characterization mass spectrometry instrumentation.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student poster presentation)
  34. K. Adams, R. H. Gomer, **F. Fernandez-Lima**. “Lipid Characterization of Dictyostelium discoideum Cells during Chemotaxis.” 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student oral presentation)
  35. A. McKenzie; M. E. Ridgeway; M. A. Park, **F. Fernandez-Lima**, “Mapping reaction landscape during explosive analysis using TIMS-MS and theoretical tools”. 92<sup>nd</sup> Florida Annual Meeting and Exposition, Tampa, Florida. May 5-7, 2016. (graduate student poster presentation)
  36. K. Adams. “Localization, Identification and Quantification of Biomarkers During Cell Development”. Statewide Graduate Student Competition, University of Florida, Florida. April 22<sup>nd</sup>, 2016. (graduate student poster presentation)
  37. A. Castellanos. “Drug delivery quantitation and localization at the single cell level”. Statewide Graduate Student Competition, University of Florida, Florida. April 22<sup>nd</sup>, 2016. (graduate student poster presentation)
  38. C. Molano. “Characterization of intramolecular interactions of cytochrome c using nanoESI-HDX-TIMS-MS and molecular dynamics”. Statewide Graduate Student Competition, University of Florida, Florida. April 22<sup>nd</sup>, 2016. (graduate student poster presentation)
  39. D. Montero, K. J. Adams, D. Aga, **F. Fernandez-Lima**, “Characterization of poly-Brominated Diphenyl Ethers using nanoESI-TIMS-MS and molecular modeling”. 10<sup>th</sup> Annual Southeast Cell Science Undergraduate Research Symposium, April 23<sup>rd</sup>, 2016, St Thomas University, Florida. (undergraduate student oral presentation)
  40. C. Ly, A. McKenzie-Coe, F. Noriega, **F. Fernandez-Lima**, “Detection and Quantification of isomers in biological molecules using TIMS-MS”. 10<sup>th</sup> Annual Southeast Cell Science Undergraduate Research Symposium, April 23<sup>rd</sup>, 2016, St Thomas University, Florida. (undergraduate student oral presentation)
  41. P. Benigni, R. Marin, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park, P. Gardinali, **F. Fernandez-Lima**. “Understanding the oxygenation mechanism of hydrocarbons in the ocean utilizing SA-TIMS-FT-ICR MS”. 12th European Fourier Transform Mass Spectrometry Conference, Matera, Italy. April 5-8, 2016. (graduate student oral presentation)
  42. J. Castro, A. Castellanos, **F. Fernandez-Lima**, “Development of single-cell imaging protocols for 3D-TOF-SIMS”. 2016 Conference for Undergraduate Research at FIU, March 30-31, 2016, FIU MMC Campus, Miami, Florida. (undergraduate student oral presentation)
  43. D. Montero, K. J. Adams, D. Aga, **F. Fernandez-Lima**, “Characterization of poly-Brominated Diphenyl Ethers using nanoESI-TIMS-MS and molecular modeling”. 2016 Conference for Undergraduate Research at FIU, March 30-31, 2016, FIU MMC Campus,

- Miami, Florida. (undergraduate student oral presentation)
44. R. Marin, P. Benigni, K. Sandoval, C. Thompson, P. Gardinali, **F. Fernandez-Lima**, “Monitoring the photo transformation of crude oils using SA-TIMS-FT-ICR MS”. 2016 Conference for Undergraduate Research at FIU, March 30-31, 2016, FIU MMC Campus, Miami, Florida. (undergraduate student oral presentation)
  45. C. Ly, A. McKenzie-Coe, F. Noriega, **F. Fernandez-Lima**, “Detection and Quantification of isomers in biological molecules using TIMS-MS”. 2016 Conference for Undergraduate Research at FIU, March 30-31, 2016, FIU MMC Campus, Miami, Florida. (undergraduate student oral presentation)
  46. A. Castellanos. “Drug delivery quantitation and localization at the single cell level”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student poster presentation)
  47. C. Molano. “Characterization of intramolecular interactions of cytochrome c using nanoESI-HDX-TIMS-MS and molecular dynamics”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student poster presentation)
  48. A. Garabedian. “Folding pathways of the DNA binding protein HMGA2: AT-hook peptide-DNA complexes”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  49. K. Adams. “Localization, Identification and Quantification of Biomarkers During Cell Development”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  50. A. McKenzie-Coe. “Decomposition Pathways during Explosive Analysis using TIMS-MS and molecular dynamics”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  51. P. Benigni. “Optimizing analytical tools for the structural characterization of bio-molecules using High resolution IMS and FT-ICR MS”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  52. J. Porter. “Characterization of kinetically trapped intermediates of Microperoxidase-11 using TIMS-MS/MS and molecular modeling”. FIU Graduate Student Association Week, March 28-29, 2016, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  53. K. J. Adams, J. D. DeBord, R. H. Gomer, C. Thompson, **F. Fernandez-Lima**. “Single Cell Molecular Differentiation during Dictyostelium discoideum Chemotaxis”. 18th Annual Biomedical and Comparative Immunology Symposium. March 3-4, 2016, Miami, Florida. (graduate student oral presentation)
  54. A. Castellanos, Q. Vanbellinggen, **F. Fernandez-Lima**. “Towards drug quantitation in single-cell systems using TOF-SIMS”. 18th Annual Biomedical and Comparative Immunology Symposium. March 3-4, 2016, Miami, Florida. (graduate student oral presentation).
  55. A. Garabedian, D. Butcher, J. L. Lippens, J. Miksovska, P. Chapagain, D. Fabris, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**. “Characterization of kinetically trapped i-motif DNA folding intermediates using nanoESI-TIMS-MS and molecular dynamics”. 18th Annual Biomedical and Comparative Immunology Symposium. March 3-4, 2016, Miami, Florida. (graduate student oral presentation)
  56. J. C. Molano-Arevalo, K. Pham, J. Miksovska, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**. “Characterization of intramolecular interactions of globular proteins using nanoESI-HDX-TIMS-MS and molecular dynamics”. 18th Annual Biomedical and Comparative Immunology Symposium. March 3-4, 2016, Miami, Florida. (graduate student oral

- presentation)
57. J. Castro, A. Castellanos, **F. Fernandez-Lima**. “Development of single-cell imaging protocols for 3D-TOF-SIMS”. 18th Annual Biomedical and Comparative Immunology Symposium. March 3-4, 2016, Miami, Florida. (undergraduate student poster presentation)
  58. A. Garabedian, F. Leng, P. Chapagain, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**, “Folding pathways of the DNA binding protein HMGA2: AT-hook peptide-DNA complexes”, ASMS Sanibel Conference “Characterization of Protein Therapeutics by Mass Spectrometry”, January 21 - 24, 2016, Florida. (graduate student oral presentation)
  59. C. Harrilal, R. Almeida, A. Garabedian, J. C. Molano-Arevalo, E. Schenk, J. Miksovská, **F. Fernandez-Lima**, “HDX-TIMS-MS reveals kinetic intermediates of globin proteins”, Session Title: Advances in Analytical Ion Mobility Separations, The International Chemical Congress of Pacific Basin Societies, December 15-20, 2015, Honolulu. (candidate oral presentation)
  60. P. Benigni, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park, P. Gardinali, **F. Fernandez-Lima**, “Understanding solar induced transformation of crude oils using high resolution ion mobility spectrometry coupled to FT-ICR MS”. Session Title: Symposium on Petroleomics: Molecular Level Understanding of Petroleum for Environmental Science and Petroleum Engineering. The International Chemical Congress of Pacific Basin Societies, December 15-20, 2015, Honolulu. (candidate oral presentation)
  61. **F. Fernandez-Lima**, “Unwinding the biological complexity: Mass spectrometry-based technologies for surface interrogation and structural assignment” December 3<sup>rd</sup>, 2015, Department of Chemistry at the New Mexico State University. (candidate invited talk)
  62. **F. Fernandez-Lima**, “Development of mass spectrometry-based technologies for surface interrogation and structural assignment” November 12, 2015, Department of Chemistry at the Florida State University. . (candidate invited talk)
  63. **F. Fernandez-Lima**, “From Solution to the Gas-Phase: Characterization of Kinetic Intermediates of Biomolecules. What Can We Learn on the Structure and Dynamics from Single Molecule Studies?” October 5<sup>th</sup>, 2015, Department of Chemistry at the University of North Carolina at Chapel Hill. (candidate invited talk)
  64. A. Castellanos, R. Gomer, **F. Fernandez-Lima**. “3D-SIMS Characterization of Dictyostelium Discoideum during Chemotaxis.” 20<sup>th</sup> International Conference on Secondary Ion Mass Spectrometry, Seattle, September 13-18, 2015. (candidate oral presentation)
  65. A. Castellanos, D. Calligaris, N. Agar, **F. Fernandez-Lima**. “Drug Delivery Mapping in Cancer Cells using Subcellular Topological Markers and 3D-TOF-SIMS”. 20<sup>th</sup> International Conference on Secondary Ion Mass Spectrometry, Seattle, September 13-18, 2015. (graduate student oral presentation)
  66. T. O’Connor, A. Castellanos, D. Calligaris, N. Agar, **F. Fernandez-Lima**. “Development of subcellular strategies for tridimensional molecular mapping”. Florida International University, Summer Research Internship, Mini-Symposium, August 7, 2015. (high school student oral presentation)
  67. A. E. Thomsen, P. Benigni, R. Marin, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park, P. Gardinali, **F. Fernandez Lima**. “Study of the photo-oxidation pathways of the C<sub>13</sub>H<sub>9</sub>N series of the water accommodated fraction of crude oil with ion mobility spectrometry coupled to FT-ICR MS”. Florida International University, Research Experience for Undergraduates Symposium, July 24, 2015. (undergraduate student oral presentation)
  68. J. Cheeves, A. Garabedian, Q. Zhou, **F. Fernandez-Lima**, Y. Tse-Dinh. “Analyzing

- Bacterial Topoisomerase I to Study Lysine Acetylation using nanoESI-TIMS-MS". Florida International University, Research Experience for Undergraduates Symposium, July 24, 2015. (undergraduate student oral presentation)
69. P. Benigni, R. Marin, A. E. Thomsen, K. Sandoval, C. Thompson; M. E. Ridgeway; M. A. Park; P. Gardinali; **F. Fernandez Lima**. "Steps towards direct structural assignment of single compounds in complex mixtures using gas-phase, post-ionization separation and theoretical tools". Annual Meeting of the International Society for Ion Mobility Spectrometry, Cordoba, Spain, July 26-29. (candidate oral presentation)
  70. P. Benigni, K. Sandoval, C. Thompson, M. Ridgeway, M. A. Park, P. Gardinali, **F. Fernandez Lima**. "Monitoring the photo transformation of crude oils using SAIMS-FT-ICR MS". ASMS 2015, May 31 - June 4, 2015, St. Louis, MO. (graduate student oral presentation)
  71. A. Castellanos; R. Gomer; **F. Fernandez-Lima**. "3D-SIMS characterization of intra/extra cellular molecular expression during Dictyostelium discoideum chemotaxis". ASMS 2015, May 31 - June 4, 2015, St. Louis, MO. (graduate student poster presentation)
  72. E. Schenk; F. Nau; G. Gozo; M. Ridgeway; M. A. Park; F. Leng; **F. Fernandez Lima**. "HDX-TIMS-MS and molecular dynamics reveal folding pathways in DNA-binding proteins". ASMS 2015, May 31 - June 4, 2015, St. Louis, MO. (candidate oral presentation)
  73. **F. Fernandez-Lima**, "Mass Spectrometry Based Tools for Biological Surface Interrogation and Structural/Conformational Assignment: Unwinding the Biological Complexity", May 1, 2015, Department of Biochemistry and Molecular Biology at the University of Miami Miller School of Medicine. (candidate invited talk)
  74. K. J. Adams, R. H. Gomer, **F. Fernandez-Lima**, "Fast Separation, Identification and Quantification of Biological Compounds in Single Cells" Statewide GPC, April 24, 2015, Orlando, Florida. (graduate student oral presentation)
  75. P. Benigni, C. Thompson, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**, "Targeted high resolution ion mobility separation coupled to ultrahigh resolution mass spectrometry of endocrine disruptors in complex mixtures", 10th North American FT MS Conference, April 12-16, 2015, Key West, Florida. (graduate student oral presentation)
  76. R. Villacob, P. Benigni, **F. Fernandez-Lima**, "Development of novel interrogation tools for surface analysis using ultrahigh resolution mass spectrometry", 10th North American FT MS Conference, April 12-16, 2015, Key West, Florida. (graduate student poster presentation)
  77. P. Benigni, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park, P. Gardinali, **F. Fernandez Lima**, "Understanding solar induced transformation of crude oil using ion mobility spectrometry coupled to FT-ICR MS", April 12-16, 2015, Key West, Florida. (candidate poster presentation)
  78. J. C. Molano-Arevalo, **F. Fernandez-Lima**, "Analysis of Cytochrome C inter- and intramolecular interactions", FIU Graduate Student Association Week, April 6-7, 2015, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  79. P. Benigni, K. Sandoval, C. Thompson, M. E. Ridgeway, M. A. Park; P. Gardinali, **F. Fernandez Lima**, "Understanding solar induced transformation of Crude Oil using Ion Mobility Spectrometry and FT-ICR MS", FIU Graduate Student Association Week, April 6-7, 2015, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
  80. K. J. Adams, **F. Fernandez-Lima**, "Fast Separation and Identification of Targeted Compounds in Complex Mixtures", FIU Graduate Student Association Week, April 6-7, 2015, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)

81. A. L. Garabedian, Y. Tse-Dinh, **F. Fernandez-Lima**. “Lipid response in E. COLI cells under antibiotic stress”, FIU Graduate Student Association Week, April 6-7, 2015, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
82. A. Castellanos, R. Gomer, **F. Fernandez-Lima**, “3D molecular characterization of intra/extra cellular expression during Dictyostelium discoideum chemotaxis”, FIU Graduate Student Association Week, April 6-7, 2015, FIU MMC Campus, Miami, Florida. (graduate student oral presentation)
83. C. Harrilal, J. Miksovská, **F. Fernandez-Lima**, “Conformational kinetics study of MP-11 using TIMS-MS and molecular dynamics”, FIU Undergraduate Research Conference March 17 and 18, 2015 (undergraduate student poster presentation)
84. S. Alvarado, J. D. DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima**. “Development of gas-phase pre-separation tools for higher sensitivity in the molecular characterization of biodiesel mixtures”. FIU Undergraduate Research Conference March 17 and 18, 2015 (undergraduate student poster presentation)
85. **F. Fernandez-Lima**, “Kinetic intermediates of peptides and proteins using HDX-TIMS-MS”, Pittcon 2015 Conference and Expo, March 8 - 12, 2015, New Orleans (candidate oral presentation)
86. **F. Fernandez-Lima**. “Challenges during biological surfaces interrogation and structural/conformational assignment “, March 2-3, 2015, Texas A&M University. (candidate invited talk)
87. **F. Fernandez-Lima**, “Probing kinetic intermediates of peptides and proteins with HDX-TIMS-MS”, Gordon Conference: Gaseous Ions Structures, Energetics & Reactions, February 22-27, 2015, Galveston TX. (candidate poster presentation)
88. A. McKenzie, J. D. DeBord, M. Ridgeway, M. Park, G. Eiceman, **F. Fernandez-Lima**, “Adduct Formation of Explosives and Separation from Complex Mixtures Using Trapped Ion Mobility Spectrometry- Mass Spectrometry”, Sanibel Conference: Security and Forensic Applications of Mass Spectrometry, January 22-25, 2015 Clearwater Beach, FL (graduate student poster presentation).
89. C. Harrilal, J. Miksovská, **F. Fernandez-Lima**, “Conformational kinetics study of MP-11 using TIMS-MS and molecular dynamics”, FIU McNair Scholars Research Conference, October 16-18, 2014. (undergraduate student poster presentation)
90. S. Alvarado, J. D. DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima**. “Development of gas-phase pre-separation tools for higher sensitivity in the molecular characterization of biodiesel mixtures”. FIU McNair Scholars Research Conference, October 16-18, 2014. (undergraduate student poster presentation)
91. J. C. Molano-Arévalo, D. R. Hernández, W. G. González, J. Miksovská, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**. “Flavin Adenine Dinucleotide structural motifs: from solution to gas-phase” International Society for Ion Mobility Spectrometry 2014, Asheville (graduate student oral presentation).
92. P. Benigni, C. Thompson, J. Wolff, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**, “Analysis of endocrine disruptors compounds from biological matrices using Ion Mobility Spectrometry-Mass Spectrometry”, International Society for Ion Mobility Spectrometry 2014, Asheville (graduate student oral presentation).
93. A. McKenzie, J. D. DeBord, M. Ridgeway, M. Park, G. Eiceman, **F. Fernandez-Lima**, “Trapped Ion Mobility Spectrometry-Mass Spectrometry of familiar explosives compounds” International Society for Ion Mobility Spectrometry 2014, Asheville (graduate student oral presentation)



- presentation).
94. E. R. Schenk, R. Almeida, M. Ridgeway, M. Park, J. Miksovská, **F. Fernandez-Lima**. “A systematic approach for protein structure elucidation by TIMS and molecular dynamic simulations: a case study of holo and apomyoglobin”. International Society for Ion Mobility Spectrometry 2014, Asheville (postdoctoral oral presentation).
  95. E. Schenk, G. Gozo, M. Ridgeway, M. A. Park, **F. Fernandez Lima**. “AT-hook protein isomerization dynamics: solution vs gas-phase”. International Society for Ion Mobility Spectrometry 2014, Asheville (candidate oral presentation).
  96. A. Garabedian, E. R. Schenk, D. R. Hernandez, C. J. Thompson, Y. Tse-Dinh, **F. Fernandez-Lima**. “Molecular differentiation of Escherichia coli strains as a function of antibiotic stress”. 62nd ASMS Conference on Mass Spectrometry & Allied Topics. June 15 - 19, 2014. (graduate student poster presentation)
  97. K. J Adams, J. D. DeBord, R. Gomer, C. Thompson, **F. Fernandez-Lima**. “Starvation-induced changes in the lipid composition of Dictyostelium discoideum cells”. 62nd ASMS Conference on Mass Spectrometry & Allied Topics. June 15 - 19, 2014. (graduate student poster presentation)
  98. E. R. Schenk, F. Nau, G. Gozo, M. E. Ridgeway, M. A. Park, F. Leng, **F. Fernandez-Lima**. “AT-hook peptide and protein isomerization dynamics: solution vs. gas-phase”. 62nd ASMS Conference on Mass Spectrometry & Allied Topics. June 15 - 19, 2014 (candidate poster presentation)
  99. J. C. Molano-Arevalo, D. R. Hernandez, W. Gonzales, J. Miksovská, M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**. “Conformational Dynamics of Flavin Adenine Dinucleotide”. Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  100. A. Mckenzie, J. D. DeBord, M. Ridgeway, M. Park, G. Eiceman, **F. Fernandez-Lima**, “Explosives characterization and separation from complex mixtures using trapped ion mobility spectrometry – mass spectrometry”, Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  101. P. Benigni, J. D. DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima**, “Coupling of gas-phase separation to high resolution mass spectrometry in the molecular characterization of crude oils”, Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  102. R. Villacob, J. D. DeBord, **F. Fernandez-Lima**, “Development of Surface Interrogation Tools for Mass Spectrometry Imaging”. Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  103. K. Adams, J. D. DeBord, C. J. Thompson, R. H. Gomer, **F. Fernandez-Lima**. “Starvation-induced changes in the lipid composition of Dictyostelium discoideum cells”. Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  104. A. Garabedian, E. Schenk, D. R. Hernandez, Y. C. Tse-Dinh, **F. Fernandez-Lima**, “Molecular differentiation of Escherichia coli strains as a function of antibiotic stress”. Florida Annual Meeting and Exposition, Tampa, Florida, May 9-10, 2014. (graduate student oral presentation)
  105. A. Mckenzie, J. D. DeBord, M. Ridgeway, M. Park, G. Eiceman, **F. Fernandez-Lima**, “Unambiguous Trace Explosives Characterization: Challenges and Perspectives”. Third Annual IFRI Forensic Science Symposium, Florida International University, April 30-May 1,

2014. (graduate student poster presentation)
106. K. Adams, J. D. DeBord, C. J. Thompson, R. H. Gomer, **F. Fernandez-Lima**. “Dictyostelium discoideum as a model for cell response and accumulation studies”. Third Annual IFRI Forensic Science Symposium, Florida International University, April 30-May 1, 2014. (graduate student oral presentation)
107. K. Diaz, E. Schenk, A. P. Benaduce, L. Kos, **F. Fernandez-Lima**, “Towards lipid analysis using secondary ion mass spectrometry at the single cell level”, 9th Annual Southeast Cell Science Undergraduate Research Symposium, St. Thomas University, Miami, Florida, April 26th, 2014 (undergraduate student poster presentation)
108. **F. Fernandez-Lima**, “Mass spectrometry imaging of Dictyostelium Discoideum cells”, Desorption 2014, April 14-16, 2014, Montreal, Canada. (candidate oral presentation)
109. J. C. Molano-Arevalo; D. R. Hernandez; W. Gonzales; J. Miksovská; M. E. Ridgeway, M. A. Park, **F. Fernandez-Lima**.” Conformational dynamics of Flavin Adenine Dinucleotide: solution vs gas-phase”. Graduate Student Appreciation Week, Florida International University, March31-April 4, 2014. (graduate student oral presentation)
110. P. Benigni, J. D. DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima**, “Development of gas-phase analytical methods for increased sensitivity in the molecular characterization of crude oils”, Graduate Student Appreciation Week, Florida International University, March31-April 4, 2014. (graduate student oral presentation)
111. K. Adams, J. D. DeBord, C. J. Thompson, R. H. Gomer, **F. Fernandez-Lima**. “Starvation-induced changes in the lipid composition of Dictyostelium discoideum cells”. Graduate Student Appreciation Week, Florida International University, March31-April 4, 2014. (graduate student oral presentation)
112. A. Mckenzie, J. D. DeBord, M. Ridgeway, M. Park, G. Eiceman, **F. Fernandez-Lima**, “Explosives Characterization and Separation from complex mixtures using Trapped Ion Mobility Spectrometry- Mass Spectrometry”, Graduate Student Appreciation Week, Florida International University, March31-April 4, 2014. (graduate student oral presentation)
113. A. Garabedian, E. Schenk, D. R. Hernandez, Y. C. Tse-Dinh, **F. Fernandez-Lima**, “Molecular differentiation of Escherichia coli strains as a function of antibiotic stress”, Graduate Student Appreciation Week, Florida International University, March31-April 4, 2014. (graduate student oral presentation)
114. A. Blanco, E. Schenk, K. Kellersberger, M. Smotherman, **F. Fernandez-Lima**; “Study of the lipid distribution on brain section of *Tadarida brasiliensis* using Mass Spectrometry Imaging”, February 13-15, 2014, Jacksonville, FL, FGSLAMP EXPO 2014 (undergraduate student poster presentation)
115. K. Diaz, E. Schenk, A. P. Benaduce, L. Kos, **F. Fernandez-Lima**, “Towards lipid analysis using secondary ion mass spectrometry at the single cell level”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
116. G. Gozo, E. Schenk, F. Leng, **F. Fernandez-Lima**, “Characterization of the AT-Hook Motifs of HMGA2”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster)
117. R. Almeida, E. Schenk, J. Miksovská, **F. Fernandez-Lima**, “Characterization of Holo- and Apo- Myoglobin conformational dynamics”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
118. C. Harrilal, J. Miksovská, **F. Fernandez-Lima**, “Conformational kinetics study of MP-11 using TIMS-MS and molecular dynamics”, February 21-22, 2014, Miami, FL, FURC 2014

- (undergraduate student poster presentation)
119. F. Nau, E. Schenk, A. P. Benaduce, L. Kos, **F. Fernandez-Lima**, “Macromolecular differentiation of melanoma cells using high resolution mass spectrometry”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
  120. R. Villacob, J. D. DeBord, **F. Fernandez-Lima**, “Development of Novel Interrogation Tools for Mass Spectrometry Imaging”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
  121. A. Castellanos, D. R. Hernandez, J. D. DeBord, M. Ridgeway, M. Park, **F. Fernandez-Lima**, “Structural Characterization of Polycyclic Aromatic Hydrocarbons using TIMS-MS”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
  122. A. Blanco, E. Schenk, K. Kellersberger, M. Smotherman, **F. Fernandez-Lima**; “Study of the lipid distribution on brain section of *Tadarida brasiliensis* using Mass Spectrometry Imaging”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
  123. S. Alvarado, J. D. DeBord, C. Thompson, P. Gardinali, **F. Fernandez-Lima**. “Development of gas-phase pre-separation tools for higher sensitivity in the molecular characterization of biodiesel mixtures”, February 21-22, 2014, Miami, FL, FURC 2014 (undergraduate student poster presentation)
  124. C. Lydon, E. Schenk, J. D. DeBord, M. Smotherman, **F. Fernandez-Lima**; “MSI MALDI-MS for Direct Lipid Profiling of Intact Tissues”, August 4-8, 2013, Indianapolis, IN, Microscopy and Microanalysis 2013. A07 Mass Spectrometry Imaging (MSI): Applications, Current Challenges and Perspectives. (graduate student poster presentation)
  125. E. Schenk, M. Smotherman, C. Morgan, **F. Fernandez-Lima**; “A Mass Spectrometry Imaging study of lipid differentiation in model systems”, August 4-8, 2013, Indianapolis, IN, Microscopy and Microanalysis 2013. A07 Mass Spectrometry Imaging (MSI): Applications, Current Challenges and Perspectives. (postdoctoral oral presentation)
  126. J. D. DeBord, R. Gomer, E. A. Schweikert, **F. Fernandez-Lima**; “Multi-probe mass spectrometry imaging of Dictyostelium Discoideum cells.” August 4-8, 2013, Indianapolis, IN, Microscopy and Microanalysis 2013. A07 Mass Spectrometry Imaging (MSI): Applications, Current Challenges and Perspectives. (candidate oral presentation)
  127. E. Schenk, J.D. DeBord, M. Ridgeway, M. Park, J. Miksovska, **F. Fernandez-Lima**, “Conformational dynamics of hexa-coordinated hemoglobins using TIMS-MS”, July 21-26, 2013, Boppard, Germany, 22<sup>nd</sup> International Conference on Ion Mobility Spectrometry. (postdoctoral oral presentation)
  128. J.D. DeBord, A. Mckenzie, M. Ridgeway, M. Park, **F. Fernandez-Lima**, “Applications of TIMS-MS in Forensic Sciences: trace analysis in complex mixtures”, July 21-26, 2013, Boppard, Germany, 22<sup>nd</sup> International Conference on Ion Mobility Spectrometry. (postdoctoral oral presentation)
  129. **F. Fernandez-Lima**. “Ion Dynamics in TIMS-MS: Theory vs Experiment.”, July 21-26, 2013, Boppard, Germany, 22<sup>nd</sup> International Conference on Ion Mobility Spectrometry. (candidate oral presentation)
  130. E.R. Schenk, R. Almeida, L. Astudillo, J. Miksovska, M. Ridgeway, M. Park, **F. Fernandez-Lima**, “Study of conformational dynamics of hexa-coordinated hemoglobins using TIMS-MS”, July 13-17, 2013, Lisbon, Portugal, 9<sup>th</sup> European Biophysics Congress. (candidate poster presentation)
  131. E.R. Schenk, C. Harrilal, R. Almeida, J.D. DeBord, J. Miksovska, **F. Fernandez-Lima**.

“Protein conformational dynamics studies using TIMS-MS and theoretical calculations”, June 9-13, 2013, Minneapolis, MN, 61<sup>st</sup> Annual Conference ASMS. (candidate poster presentation)

132. **F. Fernandez-Lima**, “Analysis of complex mixtures of heteroatom hydrocarbons using TIMS-MS”, April 7-11, 2013, New Orleans, LA, 245th ACS National Meeting. (candidate oral presentation)
133. **E.R. Schenk**, J.D. DeBord, C. Lydon, A. McKenzie, **F. Fernandez-Lima**, “High resolution gas-phase, MS-based post-ionization separation for molecular imaging and conformational dynamics”, March 13-15, 2013, FIU, FL, FIU Forensic Workshop (undergraduate student poster presentation)
134. **F. Fernandez-Lima**, “Multi-probe imaging alternatives for Mass Spectrometry based bio-imaging.” March 4-5, 2013, Orlando FL. FLAVSM-FSM. (candidate oral presentation)
135. **F. Fernandez-Lima**. “Ion Dynamics and current challenges in TIMS-MS”, July 20-27, 2012, 2012, Orlando, FL, 21st International Conference on Ion Mobility Spectrometry. (candidate oral presentation)

### **Chemistry/Biochemistry Graduate Program Recruitment Talks:**

1. **F. Fernandez-Lima**. “Mass Spectrometry based bio-imaging. Current challenges and perspectives”. University of Puerto Rico-Mayaguez, 1/24/2014
2. **F. Fernandez-Lima**. “Mass Spectrometry based bio-imaging. Current challenges and perspectives”. University of Puerto Rico-Humacao, 1/23/2014
3. **F. Fernandez-Lima**. “Mass Spectrometry based bio-imaging. Current challenges and perspectives”. University of Puerto Rico-Rio Piedras, 1/22/2014
4. **F. Fernandez-Lima**. “Mass Spectrometry based bio-imaging. Current challenges and perspectives”. Barry University, 10/31/2012

### **CREATIVE WORK**

N/A

### **PATENT DISCLOSURES, APPLICATIONS, AND AWARDS**

2012 - 2016 NIH Pathway to Independence Award (R00).  
2010 - 2012 NIH Pathway to Independence Award (K99).  
2003 Annual Award of the Cuban Academy of Sciences.  
2003 Informatics' Education Top Award, IX International Fair of Informatics, Automation and Communications, Cuba.  
2000 Becquerel Award, Cuba.  
2000 Max Planck Award, Cuba.

### **PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS**

2016 - 2018 Bruker Daltonics Inc., Life Sciences Division, Research Fellow.  
2015 Emerging Investigator for the American Society for Mass Spectrometry  
2014 Carl Storm Underrepresented Minority (CSURM) Fellowship

2012 - 2015 Bruker Daltonics Inc., Life Sciences Division, Research Fellow.  
2006 Brazilian Agency CNPq Post-doctoral Fellow.  
2004 Best year results in the New Materials Development, University of Havana, Cuba.  
2003 - 2006 Physic's Latin-American Center Pre-doctoral Fellowship (3 years), Brazil.  
2001 Physic's Latin-American Center Fellowship (6 month), Brazil.  
1991 3rd Place in Mathematical-Physical International Olympiad, Dubna, Russia.

### **OFFICES HELD IN PROFESSIONAL SOCIETIES**

2015 - present Board Member, International Society for Ion Mobility Spectrometry  
2013 - present member American Biophysical Society (ABS).  
2012 - present member American Heart Association (AHA).  
2011 - present member American Physical Society (APS).  
2011 - present member International Society for Ion Mobility Spectrometry (ISIMS).  
2007 - present member American Chemical Society (ACS).  
2007 - present member American Society for Mass Spectrometry (ASMS).

### **OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE**

2012 - present member of the editorial board of Modern Instrumentation.  
2012 - present Director, Advance Mass Spectrometry Facility, Florida International University.

### **Reviewer for scientific journals:**

- Journal of the American Chemical Society (JACS)
- Journal of the American Society for Mass Spectrometry (JASMS).
- Analytical Chemistry
- Analyst
- Journal of Mass Spectrometry (JMS).
- International Journal of Mass Spectrometry (IJMS)
- Review of Scientific Instrumentation (RSI).
- Journal of Physical Chemistry Letters (JPCL).
- Modern Instrumentation (MI).
- Science of the Total Environment
- PLOS ONE
- Analytical Methods
- International Journal of Ion Mobility Spectrometry (IJIMS)
- Rapid Communications in Mass Spectrometry (RCM)
- International Journal of Molecular Sciences (IJMS)

### **Conference organization:**

- International Scientific Committee, 20<sup>th</sup> International Conference on Secondary Ion Mass Spectrometry, Seattle, 2015.
- Session Organizer: FIB-SIMS + MeV SIMS, 20<sup>th</sup> International Conference on Secondary Ion Mass Spectrometry, Seattle, 2015.

- Session Organizer: Imaging: Fundamentals, instrumentation and method development, Annual Conference of the American Society for Mass Spectrometry, 2014.
- Session Organizer: A07 Mass Spectrometry Imaging (MSI): Applications, Current Challenges and Perspectives, Microscopy and Microanalysis, 2013.

**Research Advisor and Postgraduate Scholar Sponsors over the Last Five Years:**

**High Scholl Research Experience:** Daniel Gimeno (2014), Helen Gall (2014), Teddie O'Connor (2015), Fernando Calero (2016) and Patrick O'Shea (2016).

**Total Number of High School Students advised: 5**

**Research Experience for Undergraduates:** Vivian Iglesias (2013), Alaina McDonnell (2014), Cynthia McCord (2014), Jasmine Cheeves (2015), Alessandra Thomsen (2015) and Marshall Rebecca (2016)

**Total Number of REU Students advised: 6**

**Undergraduate Students:** Nicholas Hernandez, Daniel Gimeno, Virgilio Velasco, Alex Bolufer, Denise Montero, Rebecca Marin, Gretel Rodriguez, Jeremy Castro, Marco Filipovic, Jorman Garcia, Cindy Ly, Alexandra Blanco (AML Diagnostics), Genevieve Gozo (Coating Place Inc.), Carlos Bravo (Pharmacy School), Freddy Vega, Krystal Diaz (Penn State, PhD student), Raybel Almeida (Sandia National Laboratory), Natasha Fernandez (UM-Miller), Kiana Smith, Stephanie Alvarado, Chris Harrilal (Purdue, PhD student), Frederic Nau (Miami Central Senior High), Raul Villacob (FIU, MS student), Alan McKenzie (FIU, PhD student), Paolo Benigni (FIU, PhD student), and Anthony Castellanos (FIU, PhD student)

**Total Number of Undergraduate Students advised: 26**

**Graduate Students:**

Alan McKenzie (Fall 2013-present, PhD student, McKnight Fellow)

Completed: CUME, RP, OP, CE.

Publications: 1

Presentations: 12

Juan Camilo Molano Arevalo (Fall 2013-present, PhD student)

Completed: CUME, RP, OP, CE.

Publications: 3

Presentations: 12

Kendra Adams (Fall 2013-present, PhD student)

Completed: CUME, RP, OP, CE.

Publications: 2

Presentations: 14

Alyssa Garabedian (Fall 2013-present, PhD student)

Completed: CUME, RP, OP, CE.

Publications: 4

Presentations: 15

Paolo Benigni (Spring 2014-present, PhD student)

Completed: CUME, RP, OP, CE.

Publications: 7

Presentations: 23

Anthony Castellanos (Fall 2014-present, PhD student, NRC fellow)

Completed: CUME, RP, OP, CE.

Publications: 3

Presentations: 16

Jacob Porter (Fall 2015-present, PhD student).

Completed: RP

Publications: NA

Presentations: 4

CUME-cumulative exams; RP-research proposal; OP-original proposal; CE-candidacy exam.

### **Graduated Students:**

Raul Villacob (currently, PhD student at Baylor University)

(Fall 2014-Summer 2016, MS student)

Publications: NA

Presentations: 5

### **Total Number of Graduate Students advised: 8**

**Postdoctoral Fellows:** Emily Schenk (2012 - 2014, Agronomy Department at Agri Analysis, Inc), Diana R. Hernandez (2013 - 2014, UM Miller School of Medicine) and Quentin Vanbellinggen (2016 – present, FIU)

### **Total Number of Postdoctoral Scholars Sponsored: 3**

### **Dr. Fernandez-Lima's group Student Research Awards:**

- Alyssa Garabedian, 2016 Best Poster Presentation, 25<sup>th</sup> International Conference on Ion Mobility Spectrometry, Boston, 2016.
- Kendra Adams, 2<sup>nd</sup> Place in the Biology Poster Category, Florida Graduate Statewide Symposium 2016, Gainesville.
- Alyssa Garabedian, 2016 Biomedical Research Initiative Summer Research Award, MBRS-RISE.

- Dennise Montero, winner of 2016 Zaida C. Morales-Martinez and Howard E. Moore Chemistry Awards.
- Kendra Adams, 1<sup>st</sup> Place in the Chemistry Oral Category, GSAW 2016, Miami.
- Anthony Castellanos, 1<sup>st</sup> Place in the Chemistry Poster Category, GSAW 2016, Miami.
- Juan Camilo Molano Arevalo, 1<sup>st</sup> Place in the Biology and Biochemistry Poster Category, GSAW 2016, Miami.
- Alyssa Garabedian, 2015 Biomedical Research Initiative Summer Research Award, MBRS-RISE.
- Juan Camilo Molano Arevalo, 2015 Biomedical Research Initiative Summer Research Award, MBRS-RISE.
- Kendra Adams, 1<sup>st</sup> Place in the Chemistry Oral Category, GSAW 2015, Miami.
- Juan Camilo Molano Arevalo, 2<sup>nd</sup> Place in the Biology and Biochemistry Oral Category, GSAW 2015, Miami.
- Paolo Benigni, 1<sup>st</sup> Place Student Award, 10<sup>th</sup> FT MS Conference 2015, Key West
- Stefanie Alvarado, 2<sup>nd</sup> Place in Natural Sciences, FIU McNair Scholars Research Conference 2014, Miami.
  - Alan McKenzie, 2<sup>nd</sup> Place in Chemistry Category, GSAW 2014, Miami.