

CURRICULUM VITAE

Name: Nawal Maria Boukli, Ph.D.

Title: Full Professor

Biomedical Proteomic Facility, Director

Campus Address:

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Educational Background:

1994 Engineer of state in Agronomy

National Institute of Agronomy, Algiers

1999 Ph.D. in Molecular Biology

Uni. of Geneva, Geneva, Switzerland

Academic Appointments and Experience:

B. Positions and Honors

1995-2000. Instructor at University of Geneva, Switzerland. Taught Introduction to Biology to first year students and Molecular Biology to third year students.

2001-2002. Post-doctoral associate, University of Geneva, Switzerland.

2002-2003. Post-doctoral associate, University of Missouri, Columbia, Missouri.

2003-2008. Assistant Professor, Department of Microbiology and Immunology, Universidad Central del Caribe, Bayamon, Puerto Rico. Teach bacterial genetics and physiology (Medical Students) and teach molecular biology techniques to graduate students. Current member of the following committees: Radiation safety, Library, Graduate studies, Promotion and Faculty.

2008- 2016. Associate Professor, Department of Microbiology and Immunology, Universidad Central del Caribe, Bayamon, Puerto Rico.

2009-present. Director of the Biomedical Proteomics Facility, Universidad central del Caribe, School of Medicine, Bayamon, Puerto Rico.

2016- Present. Full Professor, Department of Microbiology and Immunology, Universidad Central del Caribe, Bayamon, Puerto Rico. Teach bacterial genetics and physiology (Medical Students) and teach molecular biology techniques to Ph.D students. Teach Signal transduction course in the biochemistry department to Master and Ph.D students.

Professional services:

- 2009- Present Reviewer for PLoS ONE Journal
- 2008-Present Clinical Proteomics
- 2010- Present Journal of Proteomics
- 2015- Present Phytotherapy Research
- 2017- Present Oncotarget Journal
- 2012- Present Reviewer Saudi Journal of Biological Sciences
- 2012-2014 External Advisory Board Member of the Minority Biomedical Research Support-Research Initiative for Scientific Enhancement and Undergraduate Research Education and Training (MBRS-RISE-URGREAT) for the University del Este (UNE)
- 2009-Present Internal Advisory Board Member of the Research Centers in Minority Institutions (RCMI) Program for the Universidad Central Del Caribe.
- 2015-Present. President of the Executive Board: Multiple Sclerosis Scientific Research in Puerto Rico.
- 2015- Present Executive Editor of Heighpubs Proteomics and Bioinformatics Research
- 2016- Present Editorial Board Member Madridge Journal of Novel Drug Research
- 2016- Present Editorial Board Member Madridge Journal of Immunology
- 2018- 2022 Executive Board Member of the Southeastern Association of Shared Resources (SEASR), a Chapter of the Association of Biomolecular Resource Facilities (ABRF).

Professional Membership:

2008- Present	Human Proteome Organization (HUPO)
2009- Present	International Society for NeuroVirology (ISNV)
2008- Present	Society on NeuroImmune Pharmacology (SNIP)
2014- Present	The National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK)
2008- Present	National Hispanic Science Network on Drug Abuse (NHSN)
2012- Present	College of Drug Dependence (CPDD)

Language Skills:

- French (native)
- Arabic (native)
- English (Fluent, speaking, reading, writing)
- Spanish (Fluent, speaking, reading, writing)
- Italian (intermediate)

Articles published in scholarly journals:

1. Gehring, C.A., Irving, H.R., Kabbarra, A.A., Parish, R.W., **Boukli, N.M.**, and Broughton, W.J. **(1997)**. Rapid, plateau-like increases in intracellular free calcium are associated with Nod-Factor-induced root-hair deformation. *Mol. Plant-Microbe. Interact.* 10: p.p. 791-802.
2. **Boukli, N.M.**, Bartsev, A., Deakin, J.W., Staehelin, C., and Broughton, W.J. **(2003)** Purification and phosphorylation of the effector protein NopL from *Rhizobium* sp. NGR234, *FEBS Letters*. Volume 554, Issue 3, p.p. 271-274.

3. Bartsev, A.V., Deakin.W.J., **Boukli, N.M.**, McAlvi, C.B., Stacey, G., Malnoë, P., Broughton, J.W., and Staehelin, C. (2004). NopL, an effector protein of *Rhizobium* sp. NGR234, thwarts activation of plant defense reactions. *Plant. Physiol.* Volume 134, February, pp. 1-9.
4. Skorpil, P., Saad, M., **Boukli, N.M.**, Kobayashi, H., Orpel, F.A., Broughton, W.J., Deakin, W. (2005). NopP, a phosphorylated effector of *Rhizobium* sp. strain NGR234, is a major determinant of nodulation of the tropical legumes *Flemingia congesta* and *Tephrosia vogelii*. *Molecular Microbiology* 57 (5), 1304–1317.
5. Ríos-Olivares, E., Vilá, L.M., Reyes, J.C., Marrero, A., Rodríguez, J.W., Pagán, N., Colón, H.M., Ríos, Z., **Boukli, N.M.**, Robles, R. (2006). Impaired cytokine production and suppressed lymphocyte proliferation activity in HCV-infected cocaine and heroin (“speedball”) users. *Journal of Drug and Alcohol Dependence.* Volume 85, Issue 3, pp.236-243.
6. **Boukli, N.M.**, Sunderasan, E., Bartsev, A., Hochstrasser, D., Perret, X., Bjourson, A.J., Krause, A., and Broughton, W.J. (2007). Early legume responses to inoculation with *Rhizobium* sp.NGR234. *J. Plant. Physiol.* Volume 164, Issue 6, pp.794-806.
7. Rodriguez, J.W, Rodriguez, L. A, Font, G, Cubano, L. A., **Boukli, N.M.**, Otero, M, Hunter, R, Nair. M. P, Rios-Olivares, E. (2007). Co-expression of apoptosis related molecules on activated CD8+CD38+ T cells is associated with HIV-1 disease progression. *American Journal of infectious diseases* 3(4): 208-21.
8. Rodriguez, J.W., Rodríguez, L.A., Font, G., Cubano, L.A., **Boukli, N.M.**, Otero, M., Hunter, Robert, Nair, N.P., Ríos-Olivares, E.O. (2007). Induction of a Soluble Anti-HIV-1 factor(s) with IFN-, IL-10, and -Chemokine Modulating Activity by an Influenza-Bacterial Polyantigenic Mixture. *American Journal of Infectious Diseases.* 3(4):266-274.
9. Cubano LA, Sepúlveda-Tórres L Del C, Sosa G, **Boukli, N.M.**, Robles R, Rodríguez JW, Guzmán L, Ríos-Olivares E. (2008). Prevalence of Drug Resistance and Associated Mutations in a Population of HIV-1+ Puerto Ricans: Gender Variations. *Ethnicity & Disease.* 18(S2):132-136.
10. Nair, N., Mahajan, S.D., Rodriguez, J.W, **Boukli, N.M.**, Provencio-Vásquez, E., Malow, R.M., and Miguez-Burbano, M.J. (2009). Methamphetamine enhances HIV-1 infectivity in monocyte-derived dendritic cells. *Journal of Neuroimmune Pharmacol.* 4(1):129-39. PMID: 18958626. PMCID: 3764920
11. **Boukli N.M.**, Saiyed, Z.M., Ricaurte, M., Rodriguez, J.W., Rios- Olivares, E., Cubano, L., and Nair, M. (2010). Implications of ER Stress, the Unfolded Protein Response and Pro and Anti-apoptotic Protein Fingerprints in Human Monocyte Derived-Dendritic Cells treated with Alcohol. *Alcoholism: Clinical and Experimental Research.* Vol. 34, No. 12. December: pp 2081-8. PMCID: PMC2988982. PMID: 20860616
12. Rao, K.V.K, **Boukli, N.M.**, Samikkannu, T, Cubano, L., Dakshayani K.B and Nair, M.P. (2011). Proteomic profiling in PC-3M prostate cancer cell line and cytotoxic effects of *cucurma longa*. *The Open Proteomics Journal.* Vol (4):1-11.
13. **Boukli, N.M.*.**, Delgado, B, Ricaurte, M and Espino A.M*. (2011). *Fasciola hepatica* and *Schistosoma mansoni*: Identification of Shared Proteins by Comparative Proteomic Analysis. *The journal of Parasitology.* Vol (97 (5): pp. 852–861, PMID: 21506812. PMCID: 3564592
*Seniority of authorship is shared by the first and last authors.
14. Mazzio, E. A., **Boukli, N.**, Rivera, N. and Soliman, K. F. A. (2012). Pericellular pH homeostasis is a primary function of the Warburg effect: Inversion of metabolic systems to control lactate steady state in tumor cells. *Cancer Science,* 103: 422–432. PMID: 22320183. PMCID: 3294166.
15. Sepulveda L., De La Rosa A., Cumba L., **Boukli, N.M.**, Ríos-Olivares E., and Cubano, L.A. (2012). Prevalence of Drug Resistance and Associated Mutations in a Population of HIV-1+ Puerto Ricans: 2006 – 2010. *AIDS research and treatment.*12 pages. Article ID 934041, doi:10.1155/2012/934041. PMID: 22593823 PMCID: 3347695

16. **Boukli, N.M.**, Shetty, V., Reis J, Cubano, L., Ricaurte, M., Shah, P., Nickens, Z., Talal, A., Philip, R., and Jain, P. (2012). Unique and Differential Protein Signature for HIV-1 Mono-infection versus co-infection. *Clinical Proteomics*, 2012. 9:11, 9-11. doi:10.1186/1559-0275 PMID: 22958358 PMCID: PMC3582525
17. Rao, K.V.K, Samikkannu, T, Kadiyala DB, Saiyed, Z.M, Gandhi N, Sathaye SS, Indap MA, **Boukli, N.M.**, Rodriguez, J.W and Nair, M. (2012). Combinatorial cytotoxic effects of *Curcuma longa* and *Zingiber officinale* on the PC-3M prostate cancer cell line. *J Basic Clin Physiol Pharmacol* 0 (0):1-8 (2012). PMID 23072849
18. M Powell, **Boukli NM**, I Almeida, T Perry, T Dye, and S Pratap. Creation of a Proteomics and Informatics Collaborative Group to Enhance Biomedical Research at Ethnically Diverse Institutions. *J Biomol Tech.* v.23(Suppl); 2012. PMCID: PMC3630554
19. María T. Miranda, Erick Suárez, Muneer Abbas, Chinea, A, Tosado, R, Ida A Mejías, **Boukli, N.M.**, Dunston G M (2013). HLA class I & II alleles in multiple sclerosis patients from Puerto Rico. *Boletín Asoc Med PR* Volume 105 (1), 2013. PMID: 23767380
20. Yang J, Hu D, Xia J, Liu J, Zhang G, Gendelman HE, **Boukli, N.M.**, Xiong H. Enhancement of NMDA Receptor-Mediated Excitatory Postsynaptic Currents by gp120-Treated Macrophages: Implications for HIV-1-Associated Neuropathology (2013). *J Neuroimmune Pharmacol.* 2013. 8 (4).921-33 PMID: 23660833.PMCID: 3740075.
21. Berríos, V., **Boukli, N.**, Rodríguez, J.W., Negraes, P., Schwindt, T., Trujilli, C., Cubano, L., Ulrich, H., Ferchmin, P., Eterovic, V., Martins, A. (2015) Paraoxon Interfere with Correct Neural Stem Cell Differentiation. *Neurochem Res.* 2015 Mar 11. Oct;40(10):2091-101. doi: 10.1007/s11064-015-1548-7. PMID: 25758980
22. Ricaurte, M., Schizas, N.V., Ciborowski, P and **Boukli, N.M** (2016). Proteomic analysis of bleached and non-bleached *Acropora palmata*, a threatened coral species of the Caribbean. *Marine pollution bulletin.* 2016; 107(1):224-32. PMID: 27105725. ***(Corresponding senior author)**.
23. Burton LJ, Rivera M, Zou J, Hudson T, Wang G, Zhang, Cubano, L **Boukli, N.M***, Odero-Marah, VA*. (2016). Muscadine Grape Skin Extract Induces an Unfolded Protein Response-Mediated Autophagy in Prostate Cancer Cells: A TMT-based quantitative proteomic analysis. *PlosOne PloS one.* 2016; 11(10):e0164115. PMID: 27755556. PMCID: PMC5068743. ***Seniority of authorship is shared by the last two authors.**
24. López, S. N., Rodríguez-Valentín, M., Rivera, M., Rodríguez, M., Babu, M., Cubano, L. A., Wang, G., & Xiong, H., Kucheryavykh, L and **Boukli, N.M.** (2017). HIV-1 Gp120 clade B/C induces a GRP78 driven cytoprotective mechanism in astrocytoma. *Oncotarget.* 2017;10.18632/oncotarget;19474. Jul 22;8(40):68415-68438. eCollection 2017 Sep 15. PMID:28978127. PMCID: PMC5620267
25. Sepúlveda-Torres, L. del C., Rishishwar, L., Rogers, M. L., Ríos-Olivares, E., **Boukli, N.**, Jordan, I. K., & Cubano, L. A. (2017). A decade of viral mutations and associated drug resistance in a population of HIV-1⁺ Puerto Ricans: 2002–2011. *PLoS ONE*, 12(5), PMID: 2799893. PMCID: PMC5426751
26. Rivera M, Ramos M, Rodriguez, M, Lopez S, Cubano, L, Zou J, Zhang Q, Wang G and **Boukli, N.M.** (2017). Targeting multiple pro-apoptotic signaling pathways with curcumin in prostate cancer cells. *PLOS ONE* 12(6): e0179587. PMID: 28628644. PMCID: PMC5476315.
27. Rodriguez, M; Lopez S, M Rivera, LA Cubano, E Ríos and **Boukli, N.M.** (2018). Natural Polysaccharide Peptide Induces TLR4-Mediated Anti-HIV-1 Response in Human Monocytes. *Journal of Immunology Research.* Volume 2018, Article ID 8741698, 14 pages. <https://doi.org/10.1155/2018/8741698>
28. Valentín-Guillama G, López S, Kucheryavykh YV, Chorna NE, Pérez J, Ortiz-Rivera J, Inyushin M, Makarov V, Valentín-Acevedo A, Quinones-Hinojosa A, **Boukli N**, Kucheryavykh LY. (2018). *Cancers* (Basel). 2018 Sep 1;10(9). pi: E301.

doi: 10.3390/cancers10090301. PMID: 30200472

29. J. M. Alves; A H. Martins; C Lameu; T Glaser; **Boukli, N.M.**; V Bassaneze; R Dariolli; I C. Nascimento; Poliana C.M. Martins; Hellio D. N. de Souza; J E Krieger; D E. Casarini; V M. Sales; J B. Pesquero, Ulrich, H. Kinin-B2 receptor activity in skeletal muscle regeneration and myoblast differentiation. *Stem Cell Reviews*. 2018 Oct 18. doi: 10.1007/s12015-018-9850-9. [Epub ahead of print]

Chapters in Books:

1. **Boukli, N.M. (1996)**. Biotinylated Nod-factors adhere to Nodulation competent root-hairs In: "Biology of Plant-Microbe Interactions". Stacey, G., Mullen, B., and Gresshoff, P. (eds), Kluwer Academic Publishers. pp. 319-324.
2. Kabbara, A., **Boukli, N.M.**, Gehring, C., Irving, H., Parish, R., Toomre, D., Jabbouri, S., and Broughton, W.J. **(1996)**. Early Events in Recognition of Nodulation Factors, *Proceedings of the Australian Society of Plant Physiologists*, pp. 210-210.
3. Irving, H.R., **Boukli, N.M.**, Toomre, D., Krause, A., Gehring, C.A., Jabbouri, S., Kabbara, A.A., Seidel, K., Parish, R.W., Kader, J.C., Varki, A.A., and Broughton, W.J. **(1997)**. Nod-factor attachment, calcium-fluxes, and lipid-transfer proteins in symbiotic signal transduction. In: "Biological Fixation of Nitrogen for Ecology and Sustainable Agriculture". (Legocki, A.B., Bothe, H., and A. Pühler eds), NATO ASI Series, Vol. G 39, Springer-Berlin, pp. 37-42.
4. Irving, H.R., **Boukli, N.M.**, Kelly, M.N., Broughton, W.J. **(2000)**. Nod- factors in the symbiotic development of root-hairs. In: "Cell and Molecular Biology of Plant Root-Hairs" (Ridge, R.W and Emons, A.M.C. eds), Springer-Verlag, Tokyo, pp. 241-265.
5. **Boukli, N.M.**, Broughton, W.J., Deakin, W.J., Kobayashi, H., Marie, C., Perret, X., Saad, M., Skorpil, P. **(2002)**. Fine Tuning of Nodulation by Rhizobia. In: "*Nitrogen Fixation: Global Perspectives*" (Finan, T., O'Brian, M., Layzell, D., Vessey, K. and Newton, W., E. CAB International, pp. 284-287.
6. **Boukli, N. M.**, Deakin, J.W., Kambara, K., Kobayashi, H., Marie, C., Perret, X., Le Quéré, A., Reuhs, B., Saad, M., Schumpp, O., Skorpil, P., Staehelin, C., Streit, W., and Broughton, W.J. "Rhizobial Control of Host-specificity". **(2004)**. *Proceedings of the 14th International Congress on Nitrogen Fixation* (Wang, Y.P., and Newton, W.E.), Springer Verlag, Berlin, pp. 149-152.
7. Deakin, W.J., Bartsev, A.V., **Boukli, N.M.**, Inaba, Y., Kobayashi, H., Marie, C., Perret, X., Saad, M., Skorpil, P., Staehelin, C., Viprey, V., and Broughton, W.J. **(2004)**. Symbiotic type III protein secretion systems. in "Biology of Plant-Microbe Interactions. Vol. 4. New Bridges Between Past and Future (I. Tikhonovich, B. Lugtenberg, and N. Provorov, eds), beans for changes in nodule and seed development as well as tolerance to aluminium". In *Proc. Phaseomics IV*, 252: pp.175-179.
8. T. Porch, **N.M. Boukli** and W.J. Broughton **(2009)**. "TILLING and Proteomics in *Phaseolus vulgaris* cv BAT93." In *Proc. Phaseomics VI*. Actas 4. pp. 40-41.

Presentations:

1. **Boukli, N.M.**, Thelen, J., Stacey, G. Proteomic analysis of soybean root-hairs after inoculation with the nitrogen fixing symbiont *Bradyrhizobium japonicum*. **(2002)**. Symposium at the Donald Danforth Plant Science Center. Mass Spectrometry in Protein Science: Proteomics, Imaging, High Order Structure. St-Louis MO. November 11-12.
2. **Boukli, N.M.**, Thelen, J., Stacey, G. Protein expression of soybean roots after inoculation with the nitrogen fixing symbiont *Bradyrhizobium japonicum*. **(2003)**. Twenty-First Annual

- Missouri Symposium. Topics in Plant Biochemistry, Physiology and Molecular Biology. Plant Protein Phosphorylation – Dephosphorylation, Columbia, MO, May 28-31.
3. **Boukli, N.M.**, Thelen, J., Stacey, G. Proteomic analysis of soybean nodules after inoculation with the nitrogen fixing symbiont *Bradyrhizobium japonicum*. (2003). Proteomic Solutions in Cellular and Developmental Biology and Medicine. Stowers Institute for Medical Research, Kansas City, MO. May 2-4.
 4. **Boukli, N.M.**, Cubano, L., Rodríguez, J.W., Ríos, E. Optimization of Proteomics Approach for Characterization of Human Peripheral Blood Mononuclear Cells. (2004). Cell & Molecular Biology & Molecular & Behavioral Neuroscience Annual Retreat, Rincón, Puerto-Rico. April 23-25.
 5. **Boukli, N.M.**, Cubano, L., Rodríguez, J.W., Ríos-Olivares. Proteomics and Genomics as Detection Tools of Immune Abnormalities in HIV-Infected Injectable Drug Users. (IDUs). (2004). Eighteenth Symposium of the Protein Society “Protein Structure, Function and Disease”, San Diego, CA. August 14-18.
 6. Cubano, L., **Boukli, N.M.**, Sosa, G., Robles, R., Rodríguez, J.W., Ríos-Olivares, E. Prevalence of Drug Resistance and Associated Mutations in a Population of HIV⁺ Puerto Ricans: Variations in Gender and IDUs. (2004). San Antonio, TX. National Hispanic Science Network on Drug Abuse. November 11-12.
 7. **Boukli, N.M.**, Cubano, L., Rodríguez, J.W., Ríos-Olivares, E. Optimization of Proteomics Approach for Characterization of Human Peripheral Blood Mononuclear Cells. (2004). 9th RCMI International Symposium on Health Disparities, Baltimore, MD. December 08-11.
 8. **Boukli, N.M.** Cubano, L., Rodríguez, J.W., Font, G., Ríos-Olivares, E. Proteomics Analysis of Anti-HIV Factor. (2005). 20th RCMI Annual Spring Symposium, Houston, TX. April 06-09.
 9. **Boukli, N.M.**, Cubano, L., Rodríguez, J.W., Ríos-Olivares, E. Proteomics analysis of plasma protein after induction with HIV. (2005). FASEB Summer Research Conference Signal Transduction in the Immune System, Snowmass Village, Colorado. June, 18-23.
 10. **Boukli, N.M.**, Cubano, L., Font, G., Robles, R., Rios-Olivares, E. Proteomic Analysis of Human Peripheral Blood Mononuclear Cells. (2006). Spring Conference in Protein Research. San Juan, Puerto Rico. March 2-5.
 11. Cubano L, **Boukli N.M.**, Nieves K, Sepúlveda-Torres L, Rodriguez JW, Robles R, Rios-Olivares, E. Prevalence of Drug Resistance and Associated Mutations in a Population of HIV+ Puerto Ricans: 2000-2005. (2006). Tenth RCMI International Symposium on Health Disparities. December 13-16
 12. Delgado, B., Rivera, F., Ricaurte, M., **Boukli, N.M.**, Espino A.M. Proteomic Analysis for the Identification of Antigens Similarly Expressed by *Schistosoma mansoni* and *Fasciola hepatica*. (2007). 56th Annual Meeting ASTMH (American Society of Tropical Medicine and Hygiene), Nov 4-8, Philadelphia, PA
 13. **Boukli, N.M.**, Cubano, L.A, Ricaurte, M, Rodriguez, J, Otero, M, Shion, H, Nold, M, Rios-Olivares, E. Protein Expression Profiles in HIV-Infected T-Lymphocytes Induced by a Polyantigenic Immunomodulator as Detected by Two-Dimensional Gel Electrophoresis and Mass Spectrometry. (2007). 2nd MS/MS. II Symposium on Mass Spectrometry: Molecular and Cellular Proteomics. Guanajuato, Mexico. Nov 4-9.
 14. Rivera, Y, López, G, Segarra, J, Miranda, L, Rivera, A, **Boukli, N.M.**, Rojas, L.V. Acute action of Thyroid Hormones in mice neuromuscular junction. (2008). Joint Meeting of the Biophysical Society & 16th International Biophysics Congress. Long Beach, CA. February 2-6.
 15. Samikkannu, T., Babu., D K., Saiyed , Z M., Rodriguez, JW., **Boukli, N.M.**, and Nair, M.P. Differential Regulation of Indoleamine -2, 3-Dioxygenase (IDO) by HIV-1 B and C Clades (2008). Society of neuroimmune pathology 14th annual conference. Charleston. SC. March 12-15.
 16. **Boukli, N.M.**, Saiyed , Z M., Ricaurte, M., Vicente, V., Valentin, D., Rios-Olivares, E.,

- Cubano, L.A, and Nair, M.P. Effect of alcohol on protein profile of monocytes derived-dendritic cells (2008). National Hispanic Science Network on Drug Abuse 8th Annual Conference. October 1-3. Bethesda. MD.
17. Rivera-Roman, Y., Lopez, G., Segarra, J., Miranda, L., Rivera, A., **Boukli, N.M.** and Rojas, L.V. Acute effects of Methimazole in the Neuromuscular Junction of Adult Mice. (2008). Society for Neuroscience Annual Meeting. Washington, DC. November 15-19
 18. **Boukli, N.M.**, Saiyed , Z M., Ricaurte, M., E., Rodriguez, J.W., Otero, M, Rios-Olivares, Ruiz, A Cubano, L.A and Nair, M.P. Alcohol Changes the Expression Profile of Proteins Involved in the Antigen Presenting Ability of Monocyte Derived-Dendritic Cells. (2008). 11th RCMI International Symposium on Health Disparities. Hawaii. December 1-2.
 19. Samikkannu, T., Rodriguez, J.W., Saiyed , Z.M., Rao, K.V.K., Babu., D K., Papuashvili, M., Gandhi, N., **Boukli, N.M.**, and Nair, M.P. Regulation of Indoleamine-2, 3-Dioxygenase (IDO) by HIV-1 Clade B and C Tal Proteins: Implication on HIV-Associated Dementia. (2008). 11th RCMI International Symposium on Health Disparities. Hawaii. December 1-2.
 20. Rodriguez, J.W., Rodriguez, M., Rodriguez, M., Lopez-Cepero, C., Samikkannu, T., **Boukli, N.M.**, Otero, Nath, A., Nair, M.P., and Rios-Olivares. Comparative Immunovirological Activity between Buprenorphine and Methadone on Human CD4+ T-Lymphocytes and Microglial Cells. (2008). 11th RCMI International Symposium on Health Disparities. Hawaii. December 1-2.
 21. D.V.K., Babu., **Boukli, N.M.**, Diaz, A., Samikkannu, T., Rao, K.V.K., Saiyed , Z.M., Gandhi, N., Papuashvili, M., Caro, A., Rodriguez, J.W. and Nair, M.P. Upregulation of Serotonin Transporter by alcohol in Human Dendritic Cells. (2008). 11th RCMI International Symposium on Health Disparities. Hawaii. December 1-2.
 22. Otero, M., Navarro, I., **Boukli, N.M.**, Rodriguez, J.W. and Rios-Olivares. Characterization of Plasmid DNA Molecular Clones to be used as Antigen Producers in an Enhanced Anti-HIV Mucosal Immunization Vaccine. (2008). 11th RCMI International Symposium on Health Disparities. Hawaii. December 1-2.
 23. **Boukli, N.M.**, Samikkannu, T., Rodriguez, J.W, Ricaurte, M., Cubano, L.A and Nair, M.P. Proteomic Fingerprints of Primary Human Neurons treated with HIV-1 Clade B and C Proteins: Implications for Neuro-AIDS (2009). 9th International Symposium on Neurovirology June 2-6, Miami, Florida.
 24. **Boukli, N.M.**, Saiyed , Z M., Ricaurte, M., E., Rodriguez, J.W., Otero, M, Rios-Olivares, Ruiz, A., Cubano, L.A., and Nair, M.P. (2009). Unfolded Protein Response in Monocyte Derived-Dendritic Cells Exposed to Alcohol Revealed by Proteomics. UCC 3rd Annual Scientific Research Symposium.
 25. Valentin, D.V., Ricaurte, M., Saiyed, Z., Rodriguez, J.W., Rios-Olivares E., Cubano, L.A., Madhavan P.N., Nair, M.P., **Boukli N.M.** (2009). Effect of Alcohol on Protein Profile of Monocyte Derived-Dendritic Cells. UMET- Puerto Rico XX Undergraduate Research Symposium. September 11-12, San Juan, PR.
 26. Kucheryavykh L.Y., **Boukli, N.M.**, Cubano L.A., Ricaurte, M., Skatchkov S.N., and Eaton M.J. (2009). Microglia regulate protein and gene expression in C6 glioma cells to promote glioma growth and dispersal. Society for Neuroscience Annual Meeting, October 17-21. Chicago, IL.
 27. **Boukli, N.M.**, Szeto, A.C., Martins, A.H., Ricaurte, M., Reyes, R., Cuadrado, B., Sanabria,P., Eterovic, V.A., Ferchmin P.A. (2009). Proteomic analysis of glial factors affecting synaptically driven calcium oscillations in hippocampal neurons. 18th Puerto Rico Neuroscience Conference. November 9, Ponce, PR.
 28. Kucheryavykh L.Y., **Boukli N.M.**, Cubano L.A., Ricaurte, M., Skatchkov S.N and Eaton M.J. (2009). Microglia regulate glioma growth and alter glioma cells protein and gene expression. 18th Puerto Rico Neuroscience Conference. November 9, Ponce, PR.

29. Cubano LA, Arvelo M, **Boukli NM**, Franceschini A. PSA Levels In A Population Of Puerto Ricans: 2005. 12th RCMI International Symposium on Health Disparities, 2010
30. **Boukli NM**, Ricaurte M, Gonzalez G, Cubano L, Rios Olivares E, Rodriguez JW. Interclade Comparative Proteomic Patterns of HIV-1 Treated Human Neurons: Insights Into Neuroaids. 12th RCMI International Symposium on Health Disparities, 2010. San Juan, PR.
31. Cubano LA, Cumba LM, **Boukli NM**, Rios-Olivares E. Resistance and Associated Mutations in HIV+ Puerto Ricans: 2005-2007. 12th RCMI International Symposium on Health Disparities, 2010. San Juan, PR.
32. **Boukli, N.M.** Saiyed, Z., Ricaurte, M., Rodriguez, J.W., Rios-Olivares, E., Cubano, L.A., Nair, M. (2010). Effect of alcohol on human monocyte derived dendritic cells revealed by proteomics. 16th SNIP Conference, April 13-17. Los Angeles, CA.
33. Rodriguez- Martinez, M., Rodriguez, M., Ricaurte, M., **Boukli, N.M.**, Nair, M., Hauser, K.F., Rios-Olivares, E., and Rodriguez, J.W. (2010). Effect of Bupronorphine and methadone on HIV-infected PBMC and human glial cells. 16th SNIP Conference, April 13-17. Los Angeles, CA.
34. **Boukli, N.M.** Saiyed, Z., Ricaurte, M., Rodriguez, J.W., Rios-Olivares, E., Cubano, L.A., Nair, M. (2010). Unfolded protein response in human monocyte derived dendritic cells exposed to alcohol revealed by proteomics. The 8th CMBC, NRC & SNRP Annual Retreat, May 14. Bayamon, PR.
35. Ortiz-Berrios, V., Martins, A.H., **Boukli, N.M.**, Ferchmin, P.A., Eterovic, V., Ulrich, H. (2010). The Effects of Paraoxon during neuronal differentiation of neural progenitor cells. The 8th CMBC, NRC & SNRP Annual Retreat, May 14. Bayamon, PR.
36. Martins, A.H., Ortiz-Berrios, V., **Boukli, N.M.**, Schwindt, T.T., Trujillo, C.A., Negraes, P.D., Ulrich, H., Ferchmin, P.A., Eterovic, V.A. (2010). Effects of paraoxon during cellular differentiation of neuronal progenitor cells. 40th Society of Neuroscience Annual Meeting, November 13-17. San Diego, CA.
37. Miranda, M.T., Suárez, E., Abbas, M., Chinaea, A., Tosado, R., Mejías, I.A., **Boukli, N.M.**, Dunston, G.M. (2010). HLA in Patients with Multiple Sclerosis in Puerto Rico. 6th Latin American Congress of Multiple Sclerosis. August 12-14. Santiago, Chile.
38. **Boukli, N.M.**, Cubano, L.A., Shetty, V., Acheampong, E., Ricaurte, M., Shah, P., Nickens, Z., Talal, A., Philip, R., and Jain, P. (2010). Proteomics analysis revealed differential markers of HIV-1 and HCV mono-infection versus co-infection. HUPO 9th Annual World Congress. September 19-23. Sydney, Australia.
39. **Boukli, N.M.**, Ricaurte, M., Rodriguez, J.W., Cubano, L.A., Garcia, E., Robles, R., Rios-Olivares, E. (2010). Correlation between High Stress and T-cell Protein Expression in Chronic Drug Users: HIV Implications. NHSN International Conference. September 30-October 2. New Orleans, LA.
40. **Boukli, N.M.**, Shetty, V., Cubano, L.A., Acheampong, E., Ricaurte, M., Shah, P., Nickens, Z., Talal, A., Philip, R., and Jain, P. (2010). Unique Protein Signature for HIV-1 Mono-infection versus co-infection. ISNV 10th International Symposium on Neurovirology. October 12-16. Milan, Italy.
41. Trujillo-Nevarez, K, Gonzalez, G, Cubano, L, Rios-Olivares E, Rodriguez, J.W and **Boukli, NM**. (2011). HIV induce differential interclade human neuronal responses by proteomic fingerprinting. 17th Society on NeuroImmunePharmacology (SNIP) Conference, April 5-10. Clearwater, FL.
42. Miranda, M. T., Pere , N., Chinaea, A., Rodriguez, L., Vicente, I., Bryan, J., Suarez, E. and **Boukli, N.M.** (2011). Low serum levels of Vitamin D in Multiple Sclerosis patients in Puerto Rico. The 63th Meeting of American Academy of Neurology, April 14. Honolulu, Hawaii
43. **Boukli, N.M.**, Rao, K.V.K, Samikkannu, T, Alves J, Cubano, L., and Nair, M.P. (2011). Proteomic profiling in PC-3M prostate cancer cell line and cytotoxic effects of *cucurma longa*. 7th Annual National Symposium on Prostate Cancer Clark Atlanta University. May 22

-24, Atlanta, GA

44. Cubano, L., Trujillo-Nevarez, K, Rios-Olivares E, Rodriguez, J.W, **Boukli, N.M. (2011)**. Determination of Human Neuronal Responses To HIV+ Clades by Proteomic Fingerprinting. HUPO 10th Annual World Congress. September 3-7. Geneva, Switzerland.
45. **Boukli, N.M.**, Cubano, L., Trujillo-Nevarez, K, Rodriguez, J.W, Robles, R, Rios-Olivares E. (2011). Effects Of Stress On HIV+ Chronic Polydrug Users. HUPO 10th Annual World Congress. September 3-7. Geneva, Switzerland.
46. Miranda, M. T., Cubano LA, Perez, N., Chinae, A., Tosado R and **Boukli, N.M (2011)**. Proteomic Biomarkers of PBMCs from Multiple Sclerosis Patients with Vitamin D Deficiency. NMRI NIDDK Midwest Regional Workshop, November 3-4, 2011
47. Miranda MT, Cubano LA, C Ledbetter, N Pérez, Chinae, A., R Tosado,., and **Boukli, N.M. (2011)**. Proteomic Biomarkers of PBMCs from Multiple Sclerosis Patients with Vitamin D Deficiency, Urology Program Director's Meeting November 30 - December 2, Turf Valley Hotel, Ellicott City, MD
48. **Boukli, N.M. (2011)**. Oral presentation. Identification of toll like receptors agonist-induced PBMC and CD8+ T cells anti HIV mechanisms. Caribbean HIV conference. The Bahamas. November 18-21, 2011
49. **Boukli, N.M.**, Rao, K.V.K, Ledbetter C., Alves J., and Nair, M.P. (2012). Proteomic profiling and cytotoxic effects of *curcuma longa* in prostate cancer. 3rd Multidisciplinary Conference in Clinical Research and 3rd Summit of Translational Research in Health Disparities. February 23-24. San Juan, PR.
50. Cubano LA, **Boukli NM**, and Franceschini A. (2012). Distribution of PSA levels in a puertorican Population: Evaluation of PSA relevant parameters. 8th Annual National Symposium on Prostate Cancer. March 18 - 20, Atlanta, GA
51. Pratap S, **Boukli NM**, Almeida I C, Perry, T, Tabb, D, Dye T, Powell M (2012). Creation of a Proteomics and Bioinformatics Collaborative Group to Enhance Biomedical Research at Ethnically Diverse Institutions. Association of Biomolecular Resource Facilities (ABRF). March 17-20, 2012, Orlando, FL
52. Alves, J, Rodriguez, M, Millena, C, LA, Cubano, Rodriguez, J.W, Sanabria, D, Khan S and **Boukli NM (2012)**. Effect of *Curcuma longa* and *Coriolus Versicolor* (PSP) extracts on Prostate Cancer: a proteomics-based study. 8th Annual National Symposium on Prostate Cancer. March 18 - 20, Atlanta, GA
53. Pratap S, **Boukli NM**, Almeida I C, Perry, T, Tabb, D, Dye T, Powell M (2012). Creation of a Proteomics and Bioinformatics Collaborative Group to Enhance Biomedical Research at Ethnically Diverse Institutions. International Conference on Intelligent Biology and Medicine (ICIBM) April 22-24, 2012, Nashville, TN, USA
54. Miranda, M. T., Escobales L., Chinae, A., and **Boukli, N.M. (2012)**. Vitamin D protects against Multiple Sclerosis. The National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK) and the Network of Minority Research Investigators (NMRI) Workshop, April 19-20, 2012.
55. Escobales L., Miranda, M. T., Chinae, A., and **Boukli, N.M. (2012)**. Survival mechanisms triggered by Vitamin D in Multiple Sclerosis. The 9th CMBC, NRC & SNRP Annual Retreat, May 14. Bayamon, PR.
56. Cubano LA, MT Miranda, A. Franceschini, HD Escobales-Filipetti; Carrero, RJ, Chinae, A and **Boukli, N.M. (2012)**. Vitamin D Protects against ER Stress and Apoptosis. HUPO 11th Annual World Congress, September 9-13, Boston, USA
57. Alves, JM; M Rodriguez; JW Rodriguez; Cubano LA; E Rios-Olivares and **NM Boukli**. Activation of Anti-Apoptotic Response is HIV-1 Clade C Dependent vs. HIV-1 Clade B Apoptotic Response. HUPO 11th Annual World Congress, September 9-13, Boston, USA
58. Escobales-Filipetti, HD; M Rodriguez; JW Rodriguez; LA Escobales; J Alves and LA Cubano; and **Boukli, N.M (2012)**. HIV-1B and C Dependent Anti and Pro-Apoptotic responses in

- Microglia. 13th RCMI International Symposium on Health Disparities. Dec 9-13 (2012) San Juan, Puerto Rico.
59. Alves, JM;M Rodriguez; JW Rodriguez; Cubano LA; E Rios-Olivares and **NM Boukli**. (2012). HIV-1B and C Express Neural Apoptotic protein signatures. 13th RCMI International Symposium on Health Disparities. Dec 9-13 (2012) San Juan, Puerto Rico.
 60. **Boukli, N.M**, L Escobales; RJ Carrero; A China; Cubano LA and MT Miranda. (2012). Vitamin D Protects against ER Stress and apoptosis in MS patients.13th RCMI International Symposium on Health Disparities. Dec 9-13 (2012) San Juan, Puerto Rico.
 61. Cubano LA, Santiago E, de la Rosa A, Cumba L and **Boukli, N.M**, Rios-Olivares E and Sepulveda L. (2012). Resistance Associated Mutations in HIV-1+ Puerto Ricans: 2002-2011.13th RCMI International Symposium on Health Disparities, 2012. San Juan, Puerto Rico.
 62. Pujals J, **Boukli NM**, Franceschini A and Cubano LA. (2012). PSA levels in a puerto- Rican Population. 13th RCMI International Symposium on Health Disparities, 2012. San Juan, Puerto Rico.
 63. Cubano LA, Miranda, M. T, Tosado, R; China, A; and **Boukli, N.M**. (2013). Vitamin D induces an anti-apoptotic response in Multiple Sclerosis Patients. Keystone Symposia Multiple Sclerosis Conference 2013, Big Sky, Montana
 64. Ramos. Y, LA, Cubano, Carrero R, Khan S and **Boukli NM** (2013). Cucurmln triggers ER stress in PC3 prostate cancer cells. 9th Annual National Symposium on Prostate Cancer. March 18 - 20, Atlanta, GA
 65. Miranda, M. T., China, A Narváez, K, Vicente, I, and **Boukli, N.M**. (2013). *Low serum level of Vitamin D in MS patients in Puerto Rico: An Update. ACTRIMS 2013, 29 May – 1 June Orlando, FL*
 66. Carrero R, Ramos.Y, Lopez, Escobales H, M Rodríguez, Cubano, LA , and **Boukli, N.M**. (2013). Alcohol Induced ER Stress Markers in Human Microglia Cells. HUPO 12th Annual World Congress, September 9-13, Yokohama, Japan
 67. Ramos. Y, Carrero R, Zou J, Cubano, LA,, Carrero, Khan S and **Boukli, N.M**. (2013).The anticancer cucurmln induces the unfolded protein response in prostate cancer cells. HUPO 12th Annual World Congress, September 9-13, Yokohama, Japan
 68. Ramos.Y, Colon, M, Cubano, LA, Zou J, Khan S and **Boukli NM** (2014). Anticancer *Curcuma longa* and *Coriolus Versicolor* (PSP) extracts induce ER stress-mediated apoptosis in Prostate Cancer. 10th Annual National Symposium on Prostate Cancer. March 18 - 20, Atlanta, GA. Awarded best poster (1st Place Winner) in Graduate Poster Competition.
 69. **Boukli, N.M**, Lopez S; Rodriguez, M; Cubano LA and Rios, E. (2014), Effect of Stress on T-cell Protein Expression in Chronic Drug Users: HIV-HCV implications. CPDD June 13-19. (2014) San Juan, Puerto Rico.
 70. **Boukli, N.M**, Lopez S; Rodriguez, M; Cubano LA and Rios, E. (2014), High Stress affects pro-inflammatory cytokines and pro-apoptotic proteins in HCV Chronic Drug Users. NHSN 14th International Conference. September 3-6. El Paso, TX.
 71. González, E, Ramos.Y, Colon, Rodriguez M, Lopez S, Rivera, M M, Cubano, LA, Zou J, and **Boukli NM** (2014). ER stress-mediated apoptosis induced by cucurmln in Prostate Cancer. Third Student Research Symposium. 26 SEPT 2014.Turabo University, Puerto Rico
 72. Cubano, LA, Narváez, K, Miranda, M. T., Rodriguez, M, China, A, and **Boukli NM** (2014). Effect of Vitamin D on Multiple Sclerosis: Neurocognitive Impairment Implications. HUPO 13th Annual World Congress, October 5-8, Madrid, Spain.
 73. Ramos.Y, Colon, M, Cubano, LA, Zou J, Khan S and **Boukli NM** (2014). Anticancer *Curcuma longa* extract induces ER stress in Prostate Cancer. HUPO 13th Annual World Congress, October 5-8, Madrid, Spain.

74. González, E, Ramos.Y, Colon M, Rodriguez M, Lopez S,Rivera, M, Cubano, LA, Zou J, and **Boukli NM (2014)**. ER stress-mediated apoptosis induced by cucurmin in Prostate Cancer. Third Student Research Symposium.26 SEPT 2014.Turabo University, Puerto Rico.
75. Cubano, LA, Narváez, K, Miranda, M. T., Rodriguez, M, China, A, and **Boukli NM (2014)**. Effect of Vitamin D on Multiple Sclerosis: Neurocognitive Impairment Implications. The Human Proteome Organization (HUPO).13th Annual World Congress, October 5-8, Madrid, Spain.
76. Rodríguez, M., López, S., Narvaez, K., Rivera, M., Merced, A., González, E., Sebastian, J., Cubano, L., Ríos-Olivares, E., **Boukli, N.** The Impact of HIV-1 and Drugs of Abuse on Neurocognitive Impairment. Minority Health & Health Disparities Grantees'Conference. National Harbor, Maryland. (Poster) (December 1-3, 2014)
77. López, S, Rodríguez, M., Rivera, M., Merced, A., González, E., Cubano, L., Ríos-Olivares, E., **Boukli, N.** Effect of HIV-1 TAT and GP120 in Human Astrocytes. Minority Health & Health Disparities Grantees' Conference. National Harbor, Maryland. (Poster) (December 1-3, 2014)
78. Rodriguez, M; Lopez S, M Rivera, K Narváez, LA Cubano, E Ríos and **Boukli NM (2015)**. GRP78 potential marker of Neurocognitive Impairment in HIV Infected Polydrug Users. NeuroHIV and alcohol abuse Satellite meeting of the 19th Society on NeuroImmune Pharmacology (SNIP) Conference, April 21-26. Miami, FL. Travel award
79. Lopez S; Rodriguez, M; LA Cubano, E Ríos and **Boukli NM (2015)**. HIV-1 Tat and GP120 Effect in Human Astrocytes: Role of ER-Stress and Neuroinflammation. 19th Society on NeuroImmune Pharmacology (SNIP) Conference, April 21-26. Miami, FL. Travel award
80. Rodriguez, M, Lopez S, Rivera M, Narváez K, Cubano LA, Ríos E and **Boukli NM (2015)**. GRP78 potential marker of Neurocognitive Impairment in HIV Infected Polydrug Users. NeuroHIV and alcohol abuse conference, April 20-21. Miami, FL. Poster and Oral presentation. Travel award.
81. Lopez S; Rodriguez, M; LA Cubano, E Ríos and **Boukli NM (2015)**. HIV-1 Tat and GP120 Effect in Human Astrocytes: Role of ER-Stress and Neuroinflammation. Neuro-HIV and alcohol abuse conference, April 20-21. Miami, FL. Poster and Oral presentation. Travel award.
82. Reyes, M, Rodríguez,M, Lopez S, Rivera M, Cubano LA, Ríos E and **Boukli NM (2015)**. *Coriolus versicolor's* Polysaccharide Peptide (PSP) induces anti- HIV response in HIV-1 Infected Human PBMC. Intel Puerto Rico Metropolitan Science Fair. March 8, 2015. San Juan, PR. Awarded best poster (1st Place Winner).
83. Rodríguez, M, Lopez S, Rodríguez, M, Ríos E, **Boukli NM** and Rodríguez, J **(2015)**. Antioxidants on METH-Induce HIV-1 Replication, Inflammation and Oxidative Stress in Human Astrocytes. *2nd Puerto Rico Cell signaling Meeting. April, 10, 2015*
84. Reyes, M, Rodríguez, M, Lopez S, Rivera M, Cubano LA, Ríos E and **Boukli NM (2015)**. Anti-Retroviral Activity of *Coriolus versicolor's* Polysaccharide Peptide (PSP) in HIV-1 Infected Human Peripheral Blood Mononuclear Cells. Intel International Science and Engineering Fair 2015, May 10-15, 2015. Pittsburgh, PA. Travel award
85. Rodríguez, M, Lopez S, Rivera M, Narváez K, Cubano LA, Ríos E and **Boukli NM 2015**. ER stress-biomarker GRP78, decreases IN HIV Infected Polydrug Users with Neurocognitive Impairment. NHSN 15th International Conference. San Antonio, TX, **June 24 -26**.
86. **Boukli, NM**, Rodríguez, M, Lopez S, Rivera M, Narváez K, Cubano LA, Ríos E Overexpression of GRP78 confers protection against Neurocognitive Impairment in HIV Infected Polydrug Users. The NIDA International Forum. Biltmore, AZ. **June 13–18, 2015**
87. **Boukli NM**, Rodríguez, M, Lopez S, Rivera M, Narváez K, Cubano LA, Ríos E **(2015)**. Overexpression of GRP78 confers protection against Neurocognitive Impairment in HIV Infected Polydrug Users. The College on Problems of Drug Dependence (CPDD) 77th Annual Meeting, Phoenix, AZ, June 13–18, 2015

88. Rodríguez, M, Lopez S, Rivera M, Narváez K, Cubano LA, Ríos E and **Boukli NM (2015)**. Overexpression of GRP78 confers protection against Neurocognitive Impairment in HIV Infected Polydrug Users. HUPO 14th Annual World Congress, Vancouver, Canada. September 27–30, 2015
89. Lopez S; Rodriguez, M; Rivera, M, LA Cubano, E Ríos and **Boukli NM (2015)**. HIV-1 clade B induces a pro-apoptotic while clade C an anti-apoptotic mechanism in Human Astrocytes HUPO 14th Annual World Congress, Vancouver, Canada. September 27–30, 2015
90. Delgado, N, Lopez S; Rodriguez, M; Rivera M, LA Cubano, E Ríos and **Boukli NM (2015)**. Differential Effects of HIV-1 Clade B and Clade C Proteins on Expression of Neurodegenerative Biomarkers and Proinflammatory Cytokines by Human Astrocytes XIII Undergraduate Research Symposium. University Del Este. Carolina, PR. October 23th, 2015
91. Lopez S; Rodriguez, M; Rivera, M, LA Cubano, E Ríos and **Boukli NM (2015)**. Association of Oxidative/ER Stress and Inflammatory Biomarkers in HIV-1 Clade B vs. HIV-1 Clade C in Astrocytoma. Annual *Society for Advancement of Chicanos/Hispanics and Native Americans in Science*. (SACNAS) National Conference. Washington, D.C. October 29-31.
92. Rodríguez, M, Lopez S, Rivera M, Rodríguez M, Cubano LA, Ríos E and **Boukli NM (2015)**. Polysaccharide Peptide Inhibits Viral Replication in HIV Infected Peripheral Blood Mononuclear Cells. Annual *Society for Advancement of Chicanos/Hispanics and Native Americans in Science* (SACNAS) National Conference. Washington, D.C. October 29-31.
93. Delgado, N, Lopez S and **Boukli NM (2015)**. Differential Effects of HIV-1 Clade B and Clade C Proteins on Expression of Neurodegenerative Biomarkers and Proinflammatory Cytokines by Human Astrocytes. ABRCMS, November 11 - 14, 2015, Seattle, WA
94. Cubano LA, Roger, M L, Rishishwar, L, Sepúlveda-Torres, LD C, E Ríos, Jordan, I K and **Boukli NM (2015)**. A decade of drug resistance and associated mutations in a population of HIV-1 Puerto Ricans: 2002 – 2011. 2015 Cell Biology ASCB Annual Meeting. December 12-16, 2015, San Diego, CA.
95. Ricaurte, M., Schizas, N.V., Weil, E., Ciborowski, P., **Boukli, N.M. (2016)**. The effect of ambient temperatures of two threatened Caribbean coral species: a proteomic study. Aquatic Sciences Meeting in Association for the Sciences of Limnology and Oceanography (ASLO). February 22-26, 2016. New Orleans, LA.
96. Cubano LA, Roger, M L, Rishishwar, L, Sepúlveda-Torres, LD C., E Ríos, Jordan, I K and **Boukli NM**. Decade Long Study in HIV-1⁺ Puerto Ricans Finds Reduction in Average Drug Resistance Per Individual, Changes in Antiretroviral Medication Resistances and Shifts in Mutations Expression **(2016)**. Experimental Biology meeting, April 2 - 6, 2016, San Diego, CA.
97. **Boukli NM**, Rodriguez, M, Lopez S, M Rivera, LA Cubano and E Ríos **(2016)**. *Coriolus versicolor*'s Polysaccharide Peptide Activates the Immune Response and inhibits HIV-1 replication. 22th *Society on NeuroImmune Pharmacology (SNIP)* Conference, April 6-9. Krakow, Poland
98. Lopez S; Rodriguez, M; Rivera, M, LA Cubano, E Ríos and **Boukli NM (2016)**. Isobaric Tagging-Based MS Quantification of HIV-1/gp120/tat in Astrocytoma: Implications for HIV-associated neurodegeneration. 2016 Puerto Rico Clinical & Translational Research Consortium Scientific Day conference, April 30. Ponce, PR.
99. Rodriguez, M; Lopez S, M Rivera, LA Cubano, E Ríos and **Boukli NM (2016)**. *Coriolus versicolor*'s Polysaccharide Peptide Activates the Immune System and Lowers HIV Replication. 2016 Puerto Rico Clinical & Translational Research Consortium Scientific Day conference, April 30. Ponce, PR
100. López S, Rodríguez M; Rivera M; Rodríguez M; Ríos E, Cubano LA and **Boukli NM (2016)**. Isobaric Tagging-Based MS Quantification of HIV-1/gp120/tat in Astrocytoma:

Implications for HIV-associated Neurodegeneration. Taipei International Convention Center, September 18-22, 2016.

101. **Boukli, N.M** Rivera M, Burton L, Wang, Cubano, L, Odero-Marah, VA. **(2016)**. Muscadine Grape Skin Extract Induces an Unfolded Protein Response-Mediated Autophagy in Prostate Cancer Cells. Taipei International Convention Center, September 18-22, 2016.
102. Valentin-Guillama.G. A., Lopez S., Perez J., **Boukli N.M**, Kucheryavykh L. **(2016)**. The HIV shell protein GP120 stimulates U87 glioma cell proliferation. 25th Annual Puerto Rico Neuroscience Conference. December 3rd, 2016. University of Puerto Rico-Rio Piedras. PR, USA.
103. Valentin-Guillama.G. A., Perez J., Lopez S., **Boukli N.M**, Kucheryavykh L. **(2016)**. The HIV shell protein GP120 stimulates U87 glioma cells proliferation. AACR Annual Meeting 2016, April 16-20, 2016. Ernest N. Morial Convention Center. New Orleans, Louisiana, USA.
104. Rivera M , López SN , Álvarez, E, De León, C, Rodríguez M and **NM Boukli (2018)**. Aβs increase neurocognitive impairment in HIV+ polydrug users while DJ-1 and GRP78 induces PBMC survival. NHSN 18th International Conference. October 3-5, 2018. Washington DC, USA.
105. Martínez H; Rivera M; Alvarez E; S López and **NM Boukli (2018)**. HIV-1 gp120 promotes glioma chemotherapy resistance via unfolded protein response. The Meharry Translational Research Center (MeTRC) Conference: Addressing health disparities. The role of translational research. November 8-9, 2018. Nashville, TN, USA.

Invited Seminar Speaker/ Awards and Honors:

1. Optimization of Proteomics Approach for Characterization of Human Peripheral Blood Mononuclear Cells. 9th RCMI International Symposium on Health Disparities, Baltimore, December 11-14, **2004**.
2. Invited speaker, high-throughput Proteomics: Protein Expression and Purification in the Postgenomic World. Presentation held for *SANOFI-Aventis*. May 5, **2005**.
3. Keynote speaker: Fifth Student Scientific Research Symposium. "Proteomics in the Medical Field". Natural Science Department, University of Puerto Rico, Aguadilla. March 3, **2005**.
4. Invited speaker, Addiction Technology Transfer Center Symposium. "Effect of the stress on the immune system and its characterization through proteomics", San Juan. February 25, **2005**.
5. Recent Advances in Proteomics: clinical applications. University of Puerto Rico. School of medicine, San Juan. September 20, **2005**.
6. New Dimensions for 2D Gel Electrophoresis. University of Puerto Rico. Rio-Piedras. Mars 15, **2006**
7. Proteomics, Examples of its Application in the Biomedical Science Field. Cellular and Molecular Biological Center Retreat. Dorado, May 18, **2006**
8. Keynote speaker: Open house of Proteomic Facility, Universidad Central del Caribe. "High-Throughput Proteomic Analysis". Bayamon, June 16, **2006**
9. Seminar continual education. Proteomic Applications in Viral Laboratory Diagnosis. College of Medical Laboratory technologists. San Patricio, PR. September, 10, **2006**
10. Presenter/Panel discussion member, Spoke about: "*How to Develop Your Research Question*". Grant Writing and Career Development Workshop Scottsdale, Arizona. National Hispanic Science Network on Drug Abuse 6th Annual Conference. September 13-16, **2006**
11. Invited speaker "High-performance Proteomic Analysis: Challenges and Solutions". 10th RCMI International Symposium on Health Disparities. San Juan, PR. December 13-16, **2006**
12. Invited speaker at Universidad Del Este. Carolina, P.R. Proteomics: Power of Technology, Expectations and Realities. August. 29, **2008**.

13. Invited speaker of Institute of NeuroImmune Pharmacology, FIU (Florida International University). Miami, FL. Seminar title: Proteomic Finger printing of Drug Abuse and HIV infection. June. 26, **2009**.
14. Invited speaker "Identification of Poly Antigenic Immunomodulator (PAI)-induced anti-HIV Factor(s)]: A proteomics-based study. InterAmerican University. Rio- Piedras, PR. December. 18, **2010**.
15. Invited speaker of University of Nebraska Medical Center. Seminar title: "Implications of Unfolded Protein Response in Human Monocyte Derived-Dendritic Cells treated with Alcohol". May 13, **2011**
16. Invited speaker of Nebraska Center for Virology, University of Nebraska Lincoln, (UNL). Seminar title: "Role of ER stress in disease" May 12, **2011**. Lincoln, NE
17. Invited speaker of University of Nebraska Medical Center (UNMC). Seminar title: Implications of Unfolded Protein Response in Human Monocyte Derived-Dendritic Cells treated with Alcohol". May 13, **2011**, Omaha, NE
18. Invited speaker. Caribbean HIV Conference. Seminar title: Identification of Toll Like Receptors agonists-Induced PBMC and CD8+ T cells anti-HIV mechanisms. The Bahamas. November 18-21, **2011**.
19. Invited speaker. Third Workshop on Translational Bioinformatics "Data Integration, Analysis and Use: From Past to Future" . University of Michigan, North Campus Research Complex. Ann Arbor, MI June, 27-29, **2011**.
20. Webinar presentation to the NIH-RCMI research community as part of the NIH-RCMI Proteomic Cluster. Seminar title: Capabilities of the UCC Proteomic Facility. February-15, **2012**
21. Invited speaker. Mayo Clinic. "Alcohol triggers ER Stress responses in dendritic cells: cell death implications". May 22, **2012**. Rochester, MN
22. Invited panel R25 grant Career Development discussion, Bethesda, Maryland. National Hispanic Science Network on Drug Abuse 13th Annual Conference. October 9-11, **2013**
23. Invited visiting professor at The Johns Hopkins University, August 10-15, **2014**. Center for Learning and Health, invited by Dr. Kenneth Silverman, Professor of Psychiatry & Behavioral Sciences and Director of the Center for Learning and Health.
24. Keynote Speaker at The Multiple Sclerosis SJU Center, October 24, **2014**. Center for Learning and Health, invited by Dr. Angel Chinea, The MS SJU Center to present at Biogen Idec MS meeting. Seminar title: Effect of Vitamin D on Multiple Sclerosis: Biomarker Detection and Neurocognitive Impairment Implications
25. Invited speaker at the Antillean Adventist University, Mayaguez, PR. Seminar title: "The power of proteomics in revealing markers of ER stress in diseases". November 13, **2014**. Mayaguez, PR
26. Invited visiting professor at Clark Atlanta University, Center for Cancer Research and Therapeutic Development, Department of Biological Sciences, Atlanta invited by Dr. Shafik, Khan. June 1-15, **2015**
27. Invited visiting/adjunct professor at the Department of Biomedical Engineering, Georgia Tech, Atlanta invited by Dr. Manu Platt from 20th March until the 7th of April **2017**. Gave seminar on: Acute ER vs. Chronic ER stress Predict Disease Progression.
28. Invited as SEASR board member to attend the Southeastern Association of Shared Resources (SEASR) conference a Chapter of *The Association of Biomolecular Resource Facilities (ABRF)* June 27-28. **2018**

Scientific Workforce Development

Important work during the last 13 years at Universidad Central del Caribe (UCC) has resulted in the creation of the first Biomedical Proteomics Facility (BPF) at UCC and the training of many undergraduate, graduate students and investigators on this technique. This allowed the

generation of preliminary data, publications and grants, increasing research productivity. Moreover, three Ph.D. students recently successfully graduated under Dr. Boukli mentorship 2017-2018 and are currently in postdoctoral fellowship.

Travel awards

- National Science Foundation (NSF) Workshop on Faculty Early Career Development., Washington, DC.2004.
- NINDS Career Development, Technical Assistance Workshop, Washington, DC. 2004.
- America Technology Seminar. Waters Corporation. Boston, May 22-25, 2007
- 2nd MS/MS Symposium on Mass Spectrometry: Molecular and Cellular Proteomics. Guanajuato, Mexico. Nov 4-9. 2007
- National Hispanic Science Network on Drug Abuse 8th Annual Conference. Bethesda. MD. October 1-3.2008.
- The National Institute of Drug of Abuse (NIDA) International Forum. Biltmore, AZ. in conjunction with the CPDD 77th Annual Conference. June 13–15, 2015
- The College on Problems of Drug Dependence (CPDD) 77th Annual Meeting, Phoenix, AZ. June 13–18, 2015
- National Hispanic Science Network on Drug Abuse NHSN 15th International Conference. San Antonio, TX, June 24 -26. 2015
- National Hispanic Science Network on Drug Abuse NHSN 16th International Conference. Washington, DC. October 3-5, 2016
- The Meharry Translational Research Center (MeTRC) Conference: Addressing health disparities. The role of translational research. November 8-9, 2018

Professional Training:

1998. Membrane Protein Biochemistry, Department of Pharmaceutical & Pharmacology, Victorian College of Pharmacy, Monash University, Parkville Campus, Melbourne, Australia.

1999. Confocal Microscopy, University of Geneva, Geneva, Switzerland.

2000. Proteomics, ETH, Zürich, Switzerland.

2004. National Science Foundation (NSF) Workshop on Faculty Early Career Development, Washington, DC.

2004. NINDS Career Development, Technical Assistance Workshop, Washington, DC.

2007. America Technology Seminar. Waters Corporation. Boston, MA

2007. Molecular Profiling using LC/MS- A Powerful Tool for Metabolite and Protein Biomarker Discovery. Agilent Technologies. ABRF (Association of Biomolecular Resource Facilities) conference, Tampa, FL.

2007. Searching for Potential Biomarkers of Cisplatin Resistance in Human Ovarian Cancer Using a Label-free LC/MS-based Protein Quantification Method. INCAPS. ABRF (Association of Biomolecular Resource Facilities) conference, Tampa, FL.

2007. Using Targeted Strategies for Protein ID, Characterization, and Quantitation. Applied Biosystems. ABRF (Association of Biomolecular Resource Facilities) conference, Tampa, FL.

2007. New Tools for Sample Preparation and LC/MS for Protein Identification and Characterization. Agilent Technologies. ABRF (Association of Biomolecular Resource Facilities) conference, Tampa, FL.

2007. New Dimensions in Qualitative and Quantitative Proteomics with the Synapt™ High Definition Mass Spectrometry™ System. Waters Corporation. ABRF (Association of Biomolecular Resource Facilities) conference, Tampa, FL.

2011. Third Workshop on Translational Bioinformatics. “Data Integration, Analysis and Use: From Past to Future”. University of Michigan, North Campus Research Complex. Ann Arbor, MI

2013. Grant Writing Workshop. University of Kentucky. May 6-8, 2013. Lexington, KY

2016. Transcriptomics Workshop. University of Maryland. May-5-10, 2016

2018. (Travel award)

Teaching Activities:

BMS 860: Scientific Methodology. I am responsible for the proteomic lectures.

UCC 520A: Medical Microbiology and Immunology. I am responsible to teach Medical Students Bacterial Genetics, Bacterial Physiology and Metabolism, and Molecular biology Techniques.

I teach the bacterial genetics, physiology and molecular biology techniques section of the course.

BMS 817: Signal Transduction, teach pro-apoptotic molecular mechanisms

BMS 870: Research Topics

BMS 899: Graduate Research

UCC 505RI: Research I

BMS 824B: I teach graduate students (MS and PhD candidates) Cellular and Molecular Microbiology lectures.

Topics taught to PhD candidates in Cellular and Molecular Microbiology lectures:

Transcription in prokaryotes –

The mechanisms of transcription in prokaryotes

Operons: fine control of prokaryotic transcription

DNA - protein interactions in prokaryotes

and discussion of journal article chosen by Dr. Nawal Boukli

Genome, Proteome and Bioinformatics – Dr. Nawal Boukli

Proteomics and bioinformatics (Weaver Chapter 24)

Discussion of journal article –chosen by Dr. Nawal Boukli

Mentored Students/Fellows/Junior Faculty

High school, research students directed under Dr. Boukli mentorship:

Mailene Reyes, Colegio Rosa Bell. 2015-2016

Verónica Eguía, Colegio Rosa Bell. 2015-2016

* Mailene Reyes, was awarded best poster (1st Place Winner) for the project titled: Anti-Retroviral Activity of *Coriolus versicolor*'s Polysaccharide Peptide (PSP) in HIV-1 Infected

Human Peripheral Blood Mononuclear Cells, presented at the Intel Puerto Rico Metropolitan Science Fair. This award sponsored Mailene Reyes trip to present at the Intel International Science and Engineering Fair 2015, May 10-15, 2015. Pittsburgh, PA

Undergraduate research students directed under Dr. Boukli mentorship:

Juan C. Rodríguez.	Universidad Central de Bayamón, 2014-2015
Nomarys Delgado.	Universidad del Este Carolina, 2014- 2015
Emmanuel Villanueva.	UMET, 2010-2011
Gonzalo Falcón.	UPR Humacao, 2010-2011
Dorielys Valentín.	UMET, 2011-2012
Waldo Amadeo.	UPR Bayamón, 2012-2013
Stellamarys López.	UPR Bayamón, 2012-2013
Jeannette Robledo.	San Juan Bautista, 2013-2014
Angiezel Merced.	UPR Bayamón, 2013- 2014
Christine Silva-Quilles	Universidad Central de Bayamón, 2018-Present

Medical Students directed under Dr. Boukli mentorship:

Alexander Melendez	UCC, 2018-- Present
Hector Quinones	UCC, 2016- 2017
Carolina Sierra	UCC, 2016- 2017
Acela Rosado	UCC, 2016- 2017
Alejandro Gener	UCC, 2011-2012
Andrea Faraci	UCC, 2012-2013
Eduardo Maldonado	UCC, 2013-2014

Information on teaching of Graduate students, especially as pertains to supervision of thesis and dissertation research: Graduate Students (PhD or MS) as Immediate Thesis Advisor and Chair, Graduate Supervisory Committee

a) MS Students thesis directed under Dr. Boukli mentorship:

Chair thesis committee, **2012- 2014**

• Yanilda Ramos (MS), Research and Academic Advisor **2014**. Department of Microbiology and immunology, UCC.

Thesis title: “Curcumin Induces Endoplasmic Reticulum Stress and Unfolded Protein Response (UPRmt) in Prostate Cancer Cells.”

Awarded Prostate Cancer Symposium Prize for best poster presentation by a graduate student at the 10th Annual National Symposium on Prostate Cancer. March 18 – 20, 2014). Atlanta, GA. Best poster (1st Place Winner).

Current position: Graduated with distinction

Works as a Research Specialist at Amgen Laboratories, Inc, PR

Research mentored MS students

• Bonnibel Delgado, **2011**. Department of Microbiology and immunology, UPR, MSC

Thesis title: *Fasciola hepatica* and *Schistosoma mansoni*: identification of common proteins by comparative proteomic analysis.

Current position: Graduated with distinction Research Scientist at Beckton Dickinson

- Luis A. Rodríguez Montañez, **2007**. Department of Microbiology and immunology, UCC
Thesis title: Assessment of Apoptosis – Related molecules in activated CD8⁺CD38⁺ T-Cells in HIV-1 infection.
Current position: Graduated
Works as Instructor at Recinto de Río Grande de National University College (NUC)
- Antonio Pérez Casanova, **2004**. Department of Microbiology and immunology, UCC
Thesis title: Dynamics of CD8⁺ T-Lymphocyte proliferative response and cytokine secretion in human immunodeficiency virus infection.
Current position: graduated with distinction and earned a PhD from Ponce School of Medicine.

b) Doctoral students theses directed under Dr. Boukli mentorship:

- Chair thesis committee, **2013- 2018**
Madeline Rodriguez, Department of Microbiology and immunology, UCC, *completed qualifying exam in 2015. Graduated in 2017.*
Thesis Title: Anti- Retroviral Activity of *Coriolus versicolor's* Polysaccharide Peptide (PSP) in HIV-1 Infected Human Peripheral Blood Mononuclear Cells.
Current position: graduated with distinction and is doing a post-doctoral fellowship at Miami University.
- Chair thesis committee, **2013- 2017**
Sheila Lopez, Department of Microbiology and immunology, UCC, *completed qualifying exam in 2015. Graduated in 2018.*
Thesis title: An Isobaric Peptide Termini Labeling for MS/MS-Based Quantitative Proteomics approach reveal novel protein signatures and inflammatory response in HIV-1 clade B Tat induced astrocytoma.
Current position: graduated with distinction and is doing a post-doctoral fellowship at Kansas State University.
- Chair thesis committee, **2013- 2017**
Maridaliz Rodriguez, Department of Microbiology and immunology, UCC, *completed qualifying exam in 2015. Graduated in 2017*
Thesis title: The Role of Antioxidants Abrogate METH-Induce HIV-1 Replication and Oxidative Stress in Astrocytes
- Research and Academic co-Advisor, **2015- Present:**
Martha Ricaurte, Department of Marine Biology, UPR, mayaguez, PR *completed qualifying exam in 2015. Expecting to complete her Ph.D during December 2018*
Thesis Title: Proteomic analysis of bleached and unbleached *Acropora palmata*, a threatened coral species of the Caribbean

Postdoctoral associates and junior faculty advised under Dr. Boukli mentorship:

- **Postdoctoral Trainees:**
Janaina Alves, Ph.D. 2012-2014 (UCC)
Karla Narvaez, Ph.D. 2015-2016 (nter American University of Puerto Rico, Metropolitan campus)
- **Junior faculty:**
Mariteresa Miranda, MS, Ph.D, MD 2012-2014 (nter American University of Puerto Rico,

Metropolitan campus)

2012-2014

Maricarmen Colon, Ph.D. 2013-2015 (San Juan Bautista School of Medicine)

Member of Theses committees:

Ph.D. Students:

2018- present José L. Reyes – Effect of 4R on spatial memory in *in vivo* murine Gulf War Veterans' illness and Alzheimer models.

2018- present Grace E. Vélez- Characterization of a Dual Rac/Cdc42 Inhibitor MBQ-167 in Metastatic Cancer.

2016- present Vasti Aguayo- Evaluation and characterization of *Fasciola hepatica* tegument protein extract for serodiagnosis of human fascioliasis. (University of Puerto Rico Medical Sciences Campus)

M.S. Students:

2013-2015 Marie Pérez: 4R- cembranoid and edelfosine: unraveling neuroprotective pathways (UCC)

2009- 2011 Veronica Ortiz Berríos- Study of Paraoxon (POX) effects during the differentiation of Neural Progenitor Cells (UCC)

2007- 2008 Yomarie Rivera: Acute and chronic exposure to methimazole induce alterations in mouse weight, heart rate, locomotor behavior and spontaneous neurotransmitter release (UCC)

D. Additional Information: Support and/or Scholastic Performance

Extramural funding

ACTIVE

NIDA R25 Grant (5R25DA030310-05) from the University of Michigan 6/30/2018-12/31/2019

Pilot project title: Drug of Abuse-HIV Biomarkers: Implications for Neurocognitive Impairment.

Role: Principal Investigator of Pilot Project

Completed Research Support

G12RR03035 Rodriguez (PI)

08/01/2009-07/31/2017

Title: UCC Biomedical Research Centers

Subproject Title: UCC Biomedical Proteomics Facility (BPF)

Goal: To support and maintain the existing platform for clinical proteomics studies and provide the faculty training and advanced quantitative proteomic research.

Role: Director and Principal Investigator of the BPF

G12RR03035 (Rodriguez, J)

08/01/2009-

07/31/2017

Title: UCC Biomedical Research Centers

Subproject Title: UCC Biomedical Proteomics Facility (BPF)

Goal: To support and maintain the existing platform for clinical proteomics studies and provide the faculty training and advanced quantitative proteomic research.

Role: Director and Principal Investigator of the BPF

G12RR03035 (Rodriguez, J) 08/01/2009-07/31/2015
NIH/NCRR/RCMI \$90,000

Title: UCC Biomedical Research Centers

Subproject Title: Proteomic Approach for the Identification of PAI-induced PBMC and CD8+ T Cells anti-HIV Mechanism

Goal: to demonstrate PAI anti-retroviral activity by inhibiting HIV viral replication and to elucidate PAI driven anti-HiV mechanism.

Role: Project Principal Investigator

G12RR03035 (Rodriguez, J) 08/01/2009-07/31/2015
NIH/NCRR/RCMI \$80,000

UCC Biomedical Research Centers

Subproject Title: UCC Biomedical Proteomics Facility (BPF)

Role: Director and Principal Investigator of the BPF

NIDA R25 Grant (R25 DA030310_01A) from the University of Michigan 06/31/2013-06/31/2015

Pilot project title: Alcohol-HIV Biomarkers: Implications for Neurocognitive Impairment.

Role: Principal Investigator of Pilot Project 06/01/2013-12/31/2015

GOVERNMENT

G12RR03035 (Rodriguez, J.G) 08/01/2009-07/31/2014
NIH/NCRR/RCMI

UCC Biomedical Research Centers

Subproject Title: Proteomic Approach for the Identification of PAI-induced PBMC and CD8+ T Cells anti-HIV Mechanism

Role: Pilot Project Principal Investigator

2R24DA013335-06A1 (Robles, R) 5/1/2007–4/28/2012 6.00 calendar months
NIH/NIDA \$149,676

Puerto Rico Drug Abuse Research Development Program II

The peptide mass fingerprinting approach used for this project will provide information on the molecular determinants of novel stress biomarkers as important protein signatures to improve early diagnosis and substance abuse therapeutic treatment.

Role: Principal Investigator of Pilot Project

3G12RR003035-24S1 (Rodriguez, J. G) 9/30/2009-9/29/2012
UCC Biomedical Research Centers
NIH/NCRR/RCMI \$899,836

Role: Coordinator

5G11HD052352 (Cubano, L) 9/1/2009-8/31/2011
NIH/NICHD

Project: Proteomic Approach for the Identification of PAI-induced Anti-HIV Mechanism

Role: Principal Investigator of Pilot Project

R24DA13335 (Robles, R) 08/01/2004-07/31/2007
NIH-NIDA

Puerto Rico Drug Abuse Research Development Program

Role: Investigator in Training

PRIVATE

Boukli, N.M.

Sanofi Aventis

Biomedical Proteomics Facility

Role: Principal Investigator

4/30/2005-04/30/2006