# CURRICULUM VITAE
# Luisa F. Escobar-Hoyos, M.Sc. Ph.D.

**POST-DOCTORAL RESEARCH FELLOW**
**Memorial Sloan Kettering Cancer Center (MSKCC)**
David M. Rubenstein Center for Pancreatic Cancer Research
Zuckerman Research Center Z-841
417 East 68th Street
New York, NY 10065
✉ escobarl@mskcc.org

**RESEARCH ASSISTANT PROFESSOR, NON-TENURE TRACK**
**Stony Brook University (SBU)**
Co-director Pathology Translational Research Laboratory
Department of Pathology
Basic Science Tower, Level 9 Rm 140
Stony Brook Medicine
Stony Brook, NY 11794-8691
✉ luisa.escobarhoyos@stonybrook.edu

## I. EDUCATION:

**POST-DOCTORAL TRAINING IN PANCREATIC CANCER** 2016-Present
**Memorial Sloan Kettering Cancer Center (MSKCC), NY, USA**
Mentor: Steven D. Leach, MD; Co-mentor: Omar Abdel-Wahab, MD.
Advisor: Scott Lowe, PhD.
Field: Exploration and Targeting mRNA splicing in Pancreatic Cancer.
>> **Funding:** National Cancer Institute K99CA226342-01 (08/2018- 07/2020)
Pathway to Leadership Award, PanCAN/AACR (07/2017-07/2018)
National Pancreas Foundation (06/2018 – 06/2018)

**Ph.D. MOLECULAR AND CELLULAR PHARMACOLOGY** 2010-2015
**Stony Brook University-SUNY, Stony Brook, NY, USA**
Mentor: Kenneth R. Shroyer, MD PhD; Co-mentor: David Talmage PhD.
Thesis title: Keratin 17- A prognostic marker and nuclear oncoprotein in cancer.
>> **Funding:** FULBRIGHT Foreign Graduate Student Fellowship.
>> President's Award to Distinguished Doctoral Student.

**M.Sc. BIOMEDICAL SCIENCES** 2010-2013
**Universidad del Valle, Cali, Colombia**
Mentor: Adalberto Sanchez PhD; Co-mentor: Michael Plewa PhD (University of Illinois, IL, USA).
Thesis title: Genotoxic and Clastogenic Effects of Drinking Water Disinfection By-Products.
>> **Funding**: Colciencias (Colombian NIH).
>>Graduated with honors

**B.Sc. BIOLOGY** 2002-2007
**Pontificia Universidad Javeriana, Bogotá, Colombia**
*Mentors: Gloria Osorio, PhD*
*Thesis title: Risk of Cancer in Workers Exposed to Organic Solvents: Micronuclei and Influence of Polymorphisms in Xenobiotic-Metabolism and DNA Repair Genes.*
>>Graduated with honors.

## II. PERSONAL STATEMENT

My **overarching goal** is to identify and understand the factors that drive the pathogenesis and biological aggression of cancer and develop novel therapeutic agents that will enhance cancer-patient survival and quality of life. Since 2013, I have published seven first-author peer-reviewed papers that have identified new biomarkers, novel oncogenic mechanisms and targets to optimize targeted therapy in multiple cancer types. I am a co-inventor of three patents based on my doctoral thesis work that have been licensed to two companies.

Two years ago, I joined Memorial Sloan Kettering Cancer Center (MSKCC) to gain expertise in pancreatic cancer research as a postdoctoral fellow motivated by (i) the challenge to improve the dismal survival of patients with this disease and (ii) recent evidence that pancreatic cancer aggression depends on RNA expression profiles.

To gain expertise in pancreatic cancer research and RNA biology, I am training with Dr. Omar Abdel-Wahab, an expert in RNA splicing in hematologic malignancies and Drs. Scott Lowe and Steven Leach, renowned experts in pancreatic cancer. This year, I received the National Cancer Institute K99/R00 which secures support to launch my independent research career where I will study the role of RNA splicing in pancreatic cancer and uncover new therapeutic vulnerabilities for this aggressive disease. In addition, in 2017 I received the Pancreatic Cancer Action Network (PanCAN)/American Association for Cancer Research (AACR) Pathway to Leadership Grant.

Derived from my research hypothesis, we recently discovered a novel mechanism of cooperation between the two most common oncogenes in pancreatic cancer, oncogenic RAS and neomorphic mutant p53, uncovering a potential therapeutic opportunity to target tumors that bear these mutations. Specifically, we found that mutant p53 causes aberrant splicing of GAP proteins, the negative regulators of RAS, resulting in expression of inactive GAP proteins (polyC GAPs), and ultimately promoting oncogenic RAS signaling. In addition, we identified that pancreatic tumors in mouse models depend on expression of polyC GAPs and splicing machinery proteins, as genetic and chemical inhibition of these proteins caused decrease in tumor growth, number of metastases and tripled the survival time of animals. These studies identified these proteins as new targets for tumors with neomorphic p53 and oncogenic KRAS. The manuscript reporting these findings is currently under review.

I am excited for the next stages of this work. We expect to identify novel and specific dependencies of PDAC cells by studying and targeting specific alternatively spliced products and/or manipulating the function of splicing factors in the background of multiple forms of mutated *TP53*, to provide the foundation for future research that will lead to the development of more effective approaches to treat PDAC patients, improving their survival and quality of life.

## III. HONORS AND AWARDS

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| **K99/R00** National Cancer Institute | 2018-2023 |
| **Pathway to Leadership Award,** PanCAN/ American Association for Cancer Research (AACR). | 2017-2022 |
| **Young Academic Inventor's Award-** National Academy of Inventors. | 2017 |
| **Best Oral Presentation; Postdoctoral Symposium** Memorial Sloan Kettering Cancer Center. | 2017 |
| **FULBRIGHT Foreign Graduate Student Fellowship.** US Department of State, USA. | 2010-17 |
| **President's Award to Distinguished Doctoral Student.** Stony Brook University. | 2016 |
| **Scholar-in-Training Award,** American Association for Cancer Research-Aflac. | 2016 |
| **TRIUMPH Postdoctoral Fellowship.** MD Anderson (declined). | 2015 |
| **Best Poster Award; Pancreatic Diseases.** Gordon Research Conference. | 2015 |
| **PfizerTravel Scholarship.** International Papillomavirus Conference. | 2015 |
| **Outstanding Research by a Young Investigator.** Dept. of Pathology- Stony Brook University. | 2015 |
| **Van der Kloot Award; Excellence in Research.** Dept. of Pharmacology-Stony Brook University. | 2014 |
| **AACR Workshop Award; Translational Cancer Research for Basic Scientists** | 2013 |
| **Van der Kloot Award; Excellence in Teaching.** Dept. of Pharmacology-Stony Brook University**.** | 2013 |
| **National Institutes of Health Travel Award.** International Papillomavirus Conference. | 2012 |
| **FULBRIGHT Foreign Graduate Student Fellowship.** US Department of State, USA. | 2010-17 |
| **COLFUTURO Fellowship.** Colfuturo, Colombia. | 2013-15 |
| **COLCIENCIAS Fellowship for PhD degree in the US.** Department of Science Colombia (declined). | 2010 |

## IV. PEER REVIEW PAPERS

**LEAD-AUTHOR PUBLICATIONS:**

1. **Escobar-Hoyos, L. F.,** Penson, A., Luo, R., Kannan, R., Lecomte, N., Pan, F. C., Cho, H ., Askan, G., Grbovic-Huezo, O., Bermeo, J., Saglimbeni, J., Cruz, C. D., Lawrence, S. A., Melchor, J. P., Bailey, P., Chang, D. K., Biankin, A., Ventura, A., Taylor, B., Lowe, S., Bradley, R. Abdel-Wahab, O., & Leach, S. D. (**under revisions**). Altered mRNA splicing by mutant p53 licenses cell responses to oncogenic KRAS.

2. **Escobar-Hoyos, L. F.,** & Abdel-Wahab, O. Cancer-specific splicing changes and the potential for splicing-derived neoantigens. ***Cancer Cell*** 2018, 34(2):181-183. Preview.

3. **Escobar-Hoyos, L. F.,** Knorr, K & Abdel-Wahab, O. Aberrant RNA Splicing in Cancer. ***Annual Reviews in Cancer Biology*** (in press). Review Article.

4. **Escobar-Hoyos, L. F.,** Shah, R., Roa-Peña, L., Najafian, N., Vanner, E.A., Banach, A., Nielsen, E., Al-Khalil,

R., Akalin, A., Talmage, D., and Shroyer, K. R. (**2015**). Keratin-17 Promotes $p27^{KIP1}$ Nuclear Export and Degradation and Offers Potential Prognostic Utility. ***Cancer Research*** (IF=9.13). *75(17), 3650-62* PMID: 26109559.

>> First report to show cytoskeletal keratins enter in the nucleus of cancer cells to disrupt cell-cycle regulation. Specifically, we found that keratin 17 translocates into the nucleus of works as an oncoprotein target and promote the degradation of tumor suppressor p27 resulting in augmented tumor growth and short survival.

>> Highlighted in *Developmental Cell,* 2016, 38: 227-233. PMID:27505414.

**5.** *Hoyos-Giraldo, L. S., ***Escobar-Hoyos, L. F** [* co-lead authors], Saavedra-Trujillo, D., Reyes-Carvajal, I., Muñoz, A., Londono-Velasco, E., Tello, A., Cajas-Salazar, N., Ruiz, M., and Santella, R. (**2016**). Gene-specific promoter methylation is associated with micronuclei frequency in urothelial cells from individuals exposed to organic solvents and paints. ***J Expo Sci Environ Epidemiol.*** (IF=3.18). *26(3):257-62.* PMID: 25993025.

**6. Escobar-Hoyos, L. F.,** Yang, J., Zhu, J., Cavallo, J. A., Zhai, H., Burke, S., Koller, A., Chen, E. I., and Shroyer, K. R. (**2014**). Keratin 17 in Premalignant and Malignant Squamous Lesions of the Cervix: Proteomic Discovery and Immunohistochemical Validation as a Diagnostic and Prognostic biomarker. ***Modern Pathology*** **(IF=6.65).** *27, 621-630*. PMID: 24051697.

>> To identify prognostic biomarkers of cancer, I used laser capture microdissection in normal, low, and high-grade lesions, and cancer, to assess their expression of proteins via mass spectrometry. We discovered and validated that embryonic intermediate filament protein keratin 17 is upregulated in cancer when compared to normal tissue but also found that not all cancer patients expressed this protein. We then determined that the patients with higher keratin 17 expression in tumors had a shorter survival than those whose tumors were keratin 17 negative.

>> Highlighted in Expert Review of Proteomics 2016, *In press* PMID: 27398979.
>> Highlighted in *Current Opinion in Cell Biology* 2015, 32:73-81. PMID: 25599598.
>> Highlighted in *Blood* 2014, 123 (21): 3316-3326. PMID: 24705490.

**7. Escobar-Hoyos, L. F**., Hoyos-Giraldo, L. S., Londono-Velasco, E., Reyes-Carvajal, I., Saavedra-Trujillo, D., Carvajal-Varona, S., Sanchez-Gomez, A., Wagner, E. D., and Plewa, M. J. (**2013**). Genotoxic and Clastogenic Effects of Monohaloacetic Acid Drinking Water Disinfection By-Products in Primary Human Lymphocytes. ***Water Research*** **(IF=5.52)**. *47, 3282-3290*. PMID: 23602619.

>> Highlighted in *Science of Total Environment* 2016, 541: 391-399.
>> Highlighted in *Water Research* 2015, 81: 343-355.
>> Highlighted in *Environmental Science and Technology*, 2014, 48 (12), 6743–53.
>> Highlighted in *Environmental Science and Technology*, 2014, 48 (22), 13478–88.
>> Highlighted in *Water Environment Research*, 2014, 86(10):1250-1273.

**8.** *Hoyos-Giraldo, L. S., ***Escobar-Hoyos, L. F** [* co-lead authors], Reyes-Carvajal, I., Garcia, J. J., Cordoba, L., Gomez, A. S., Garcia-Vallejo, F., Cajas-Salazar, N., Carvajal, S., and Bedoya, G. (**2013**). The Effect of Genetic Admixture in an Association Study: Genetic Polymorphisms and Chromosome Aberrations in a Colombian Population Exposed to Organic Solvents. ***Annals of Human Genetics*** **(IF=2.21)**. *77, 308-320.* PMID: 23550920.

>>Highlighted in *Genes Chromosomes & Cancer*, 2015, 54(4):260-266.

**SENIOR-AUTHOR PUBLICATIONS:**

1. Babu, S., Mockler, D. C., Roa-Peña, L., Szygalowicz, A., Kim, N. W., Jahanfard, S., Shahram S. Gholami, S. S., Moffitt, R., Fitzgerald, J. P, **Escobar-Hoyos, L. F*.,** Shroyer, K. R [* co-senior authors]. Keratin 17 is a Sensitive and Specific Biomarker of Urothelial Neoplasia. ***Modern Pathology*** (IF=6.65). *In press*.

**COLLABORATIVE-AUTHOR PUBLICATIONS:**

1. Regenbogen, E., Mo, M, Romeiser, J, Shroyer, A. L W., **Escobar-Hoyos, L. F.,** Burke, S., Shroyer, K. R. (2018). Elevated expression of Keratin 17 in oropharyngeal squamous cell carcinoma is associated with decreased survival. ***Head & Neck***; 40(8):1788-1798 (IF: 3.4).
2. Mockler, D., **Escobar-Hoyos L.F**., Akalin A., Romeiser J., Shroyer A.L., Shroyer K.R. Keratin 17 is a prognostic biomarker in endocervical glandular neoplasia**. Am J Clin Pathol**. 148(3), 264–273. (IF: 2.4). PMID: 28821199.
3. Merkin, R, Vanner, E. A, Romeiser, J. L, Shroyer A. L, **Escobar-Hoyos, L. F**; Li, J, Powers, S., Burke, S.

(2017). Keratin 17 is overexpressed and predicts poor survival in ER-/HER2- breast cancer. ***Human Pathology*** (IF: 2.8). *(62):23-32*. PMID: 27816721.

4. Rao, J., **Escobar-Hoyos L.**, Shroyer, K. R. (**2016**). Unmet clinical needs in cervical cancer screening. **MLO Med Lab Obs** *48(1):8, 10, 14; quiz 15.* PMID: 26887092.
5. Leiton, C, Eyermann, C, Aranmolate, A, Menezes, M, **Escobar-Hoyos, L. F**, Husain, S; Winder, S, Colognato, H. (**2015**). Laminin Promotes Metalloproteinase Mediated Dystroglycan Processing to Regulate Oligodendrocyte Progenitor Cell Proliferation. ***Journal of Neurochemistry*** (IF=4.28). *135(3), 522-38.* PMID: 26171643.
6. Londono-Velasco, E., Hidalgo-Ceron, V., **Escobar-Hoyos, L. F.,** and Hoyos-Giraldo, L. S. (**2014**). Assessment of genomic damage and repair on human lymphocytes by paint thinner in vitro. ***Toxicology Mechanisms and Methods* (IF=1.51).** *24, 243-249.* PMID: 24236478.
7. Cordoba L, Garcia J, Hoyos-Giraldo LS, Duque C, Rojas W, Carvajal S, **Escobar-Hoyos LF,** et al., "Composición genética de una población del suroccidente de Colombia" (**2012**). (Genetic Composition of the South-Western Colombian Population). ***Revista Colombiana de Antropología*** *48, 21-48.*

## V. PATENTS

1. Shroyer, K, **Escobar-Hoyos, L.F**, Chen, E. Keratins as Biomarkers for Cervical Cancer and Survival. The Research Foundation for The State University Of New York. 2018-03-01, US20180059112A1.
   >> Licenced to OncoGenesis for evaluation of the technology for use as a diagnostic/prognostic indicator of cervical cancer.
2. Shroyer, K, **Escobar-Hoyos, L.F**, Kim, N. Keratin 17 as a biomarker for bladder cancer. The Research Foundation for The State University Of New York. 2018-02-08-WO2018027091A1 and 2017-08-04-PCT/US2017/045421.
   >> Licenced to KDx for evaluation of diagnostic biomarker of bladder cancer in urine cytologies.

3. Shroyer, K, **Escobar-Hoyos, L.F**. Keratin 17 as a diagnostic and therapeutic target for cancer. The Research Foundation for The State University Of New York. 2016-09-09- WO2016141269A1.

## VI. RESEARCH SUPPORT

**Ongoing:**

**National Cancer Institute K99/R00**
K99 CA226342 01 (PI: Escobar Hoyos) 4/1/2018 3/31/2023
Altered mRNA splicing dependent on mutant p53 identifies novel therapeutic vulnerability in pancreatic cancer
Pancreatic cancer has recently been identified to be composed of distinct subtypes based on mRNA expression. The proposed research will evaluate how changes in mRNA are caused by a protein that it is mutated in 60% of pancreatic cancer patients, called p53, with the hope that this will identify previously unknown and fundamental biological aspects of this highly fatal disease. This knowledge will provide the foundation for future research that will lead to the development of more effective approaches to treat pancreatic cancer.
Role: Principal Investigator.
Overlap: None.

**National Pancreas Foundation Grant** 06/2018 – 06/2018
Aberrant RNA processing induced by mutant p53 in pancreatic cancer: mechanistic and therapeutic Implications.We aim to establish (1) precisely how p53R175H changes splicing and (2) the therapeutic relevance of targeting the spliceosome in primary patient PDAC samples. Rigorous dissection of the mechanisms by which p53R175H modifies splicing and evaluation of the therapeutic opportunity of targeting spliceosome components in mutant p53 driven tumors will provide insights to develop novel biomarker driven therapies for PDAC to improve patient survival.
Role: Principal Investigator

**Pancreatic Cancer Action Network Translational Grant** 07/2018 – 06/2020
Keratin 17 as an actionable

**Role:** Principal Investigator
$600,000 USD over 5-year span.

**Completed:**

Pathway to Leadership Award 07/2017 – 06/2022
**Pancreatic Cancer Action Network/American Association for Cancer Research**
mRNA splicing in pancreatic adenocarcinoma
**Role:** Principal Investigator
$600,000 USD over 5-year span.

**Fulbright Foreign Student Fellowship** 10/2010-10/2013
US Department of State
Fellowship to conduct Ph.D. Studies in the United States
**Role**: Awardee
This fellowship funded my Ph.D. studies in the Graduate program of Molecular and Cellular Pharmacology at Stony Brook University.
$210,000 USD over 3-year span. .

**R01-COLCIENCIAS (Colombian NIH)** 6/2007-6/2010
RC 466-2008/110345921691
Genotoxic and Clastogenic Effects of Drinking Water Disinfection By-Products.
**Role:** Co-I
Identification of the Genotoxic and Clastogenic Effects of Drinking Water Disinfection By-Products
Research in collaboration with University of Illinois, Urbana-Champaign, IL, USA. Funded by the Center of Advanced Materials for the Purification of Water with Systems, National Science Foundation Science and Technology Center, under Award CTS-0120978.
$300,000 USD over 5-year span

**R01-COLCIENCIAS (Colombian NIH)** 6/2007-6/2010
RC 466-2008/110345921691
Bladder Cancer Risk Stratification by Gene-Specific Promoter Methylation Analyses.
**Role**: Co-I.
Research in collaboration with Columbia University, New York, NY, USA.
$500,000 USD over 5-year span

## VII. RESEARCH MENTORING AT STONY BROOK UNIVERSITY

Ryan Kawalerski — Undergraduate student, Major in Biology and Applied Mathematics & Statistics. Research training in the mechanisms of Keratin 17 solubility in pancreatic cancer. (2017-present).

Chun-Hao Pan — Graduate Student in the Molecular and Cellular Biology program at Stony Brook University training in understanding the metabolic and chemoresistant functions of Keratin 17 in pancreatic cancer. (2017-present).

Ruchi Shah — Undergraduate Student, Major in Biology, Minor in Journalism. Research training for academic credits. Stony Brook University. Cervical cancer biomarker discovery and validation; Role of keratin 17 in sustained cell proliferation and tumor angiogenesis (02/14/2012-Present).

>> Awarded the 2015-2016 American Association for Cancer Research's (AACR) Thomas J. Bardos Science Education Award for Undergraduate Research in Cancer.

>> Simons Fellow, Stony Brook University (Summer 2011).

>> Intel International Science and Engineering Fair (ISEF) 2012: 3rd place in Medicine and Health sciences, 1st place U.S. Navy award, 2nd place IAIST award.

Danielle Fassler — MSTP student, Graduate student research rotation. Mechanisms of KRT17 induction in Pancreatic Cancer (07/2015- 07/2016).

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| Shula Scheckter | Medical student. Keratin 17 as a biomarker of pancreatic ductal adenocarcinoma (06/2014-06/2015). |
| Erik Nielsen | Medical student, Scholarly Concentrations Program/MD with Recognition Program. Role of keratin 17 in sustained cell proliferation, epithelial-to-mesenchymal transition and tumor angiogenesis (06/2014-07/2016). |
| Jinelle Wint | Graduate student, Molecular and Cellular Biology. Graduate student research rotation. Cervical and Pancreatic Cancer biomarker discovery and validation (03/23/2015-05/20/2015). |
| Juan Carlos Silva | Graduate student, Science in Genomics, Autonomous University of Ciudad de Juarez (UACJ), Chihuahua, Mexico. Summer Rotation. Cervical cancer screening based on immunohistochemical localization of keratin 17 (07/01/2014-08/31/2014). |
| Ramsey Al-Khalil | MSTP student, Graduate student research rotation. Role of keratin 17 in sustained cell proliferation and tumor angiogenesis (07/14/2014-08/31/2014). |
| Anna Banach | Graduate student, Molecular and Cellular Biology. Graduate student research rotation. Role of keratin 17 in sustained cell proliferation (02/14/2014-05/31/2014). |
| Nilofar Najafian | Medical student, Scholarly Concentrations Program/MD with Recognition Program. Role of keratin 17 in sustained cell proliferation and tumor angiogenesis (06/2013-08/2015). |
| Derek Cheng | MSTP student, Graduate student research rotation. Cervical cancer screening based on immunohistochemical localization of keratin 17 and survivin (06/14/2012-08/31/2012). |
| Julie Ann Cavallo | Graduate student, Molecular and Cellular Pharmacology. Graduate student research rotation. Cervical cancer biomarker discovery and validation (02/14/2012-05/31/2012). |
| Kelvin Kwofie | Medical student, Scholarly Concentrations Program/MD with Recognition Program. Cervical cancer screening based on immunohistochemical localization of keratin 17 (06/2015-08/2015). |

## VIII. TEACHING EXPERIENCE

**Teaching Assistant.** Pharmacology Undergraduate Program. Stony Brook University. 1/2013-6/2013
*Major duties:* Support research training of Pharmacology senior students teaching in basic science laboratories.

**University Assistant Professor.** Biochemistry professor at Universidad del Valle, Cali, Colombia. 8/2009-6/2010
*Major duties:* Support research training of medical students through teaching in basic science laboratories.

**University Research Workshop Coordinator.** Training Course-Workshop on database ISI Web of Knowledge and EndNote reference manager. University of Illinois at Urbana-Champaign, Universidad del Valle, Universidad del Cauca, Universidad de Córdoba and Universidad de Nariño. 8/2005-6/2010-
*Major duties:* Training of teachers, researchers, young researchers and undergraduate and graduate students in literature search and reference management and organization.

**Research and Teaching Assistant.** Genetic Toxicology and Cytogenetics Research Group Universidad of Cauca, Colombia. 10/2005- 6/2010
*Major duties:* Development of experimental designs, execution and administration of proposals and research projects. Implementation of informed consent and questionnaires. Experiments conduction in molecular and cytogenetics techniques. Assistance in the Teaching in Human Genetics Laboratory for Biology students from the Universidad del Cauca. Organization and guidance courses and events with the Vice-Chair for Research.

**High-School Teacher.** Campestre Americano (bilingual) School, Popayán, Colombia. 09/2006-01/2007
*Major duties:* Taught science in English to students in the sixth, seventh, tenth and eleventh grades. Implemented a program to educate children in how to produce organic plants and vegetables in the school garden as an economic resource.

**Teaching assistant.** Universidad Javeriana, Bogota, Colombia. 01/2006-07/2007
*Major duties:* Taught, trained and evaluated university students in molecular biology techniques and theory of DNA isolation with different protocols and PCR. Assisted with teaching to un-graduated students from the Universidad del Cauca and Universidad Javeriana Endnote reference manager software.

## VIII. CONFERENCE PRESENTATIONS

2016 **AACR Pancreatic Cancer Meeting. Orlando, FL**
1. Poster presentation: *Translating keratin 17 status to stratify clinically relevant pancreatic cancer heterogeneity and survival.*

2015 **International Papillomavirus Conference**. Lisbon, Portugal
1. Plenary Presentation: *Beyond HPV in cervical cancer: The unexpected oncogenic role of Keratin 17.*
2. Plenary Presentation: *Nuclear Keratin 17 regulates cervical tumor vascularization by gene expression*

2015 **Gordon Research Conference in Pancreatic Diseases.** South Hadley, MA.
Poster presentation. *Prognostic value of Keratin 17 in Pancreatic Ductal Adenocarcinoma: Risk Stratification within Tumor Stage and Grade using immunohistochemical and TCGA expression analyses.*

2015 **AACR Annual Meeting.** Philadelphia, PA.
1. Poster presentation. *Keratin 17 mediates $p27^{KIP1}$-nuclear export, proliferative signaling and tumor growth***.**
2. Poster presentation. *Gene-specific promoter methylation is related to micronuclei frequency in urothelial cells from individuals exposed to organic solvents and paints.*

2013 **Provost's Lecture Series - Stony Brook University.** Stony Brook, NY
*Keratin 17, a diagnostic biomarker for premalignant lesions of the cervix with prognostic value in cancer: From discovery to validation.* March 14th. Stony Brook, NY. USA.
https://www.youtube.com/watch?v=PwbXseEyFuw

2012 **International Papillomavirus Conference**. San Juan, PR
Plenary Presentation: *Molecular classification of cervical intraepithelial neoplasia and carcinoma: Proteomic discovery and immunohistochemical validation.*
https://www.youtube.com/watch?v=b7c8LsHMe8E

2012 **American Society of Cytopathology**. Las Vegas, NV.
*Stage specific and progression cervical cancer biomarkers: Discovery and histologic validation.*

2009 **International Conference on Environmental Mutagens (ICEM).** Florence, Italy.
Poster presentation. *Genomic DNA damage and repair induced by paint thinner in human lymphocytes.* 10th

2008 **Latin American Congress of Human Genetics**. Cartagena, Colombia.
Oral Presentation: *Micronuclei frequency, DNA repair gene XRCC1 polymorphisms, genetic susceptibility and cancer risk in a population occupationally exposed to organic solvents and paints.*

2007 **Latin-American Environmental Mutagenesis, Carcinogenesis.** Cartagena, Colombia
*Occupational Exposure, Genotoxic Effects and Association with DNA Repair Gene XRCC1 Polymorphisms.*