



Name: Kristal L. Gant

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Education: BS Biology, Elizabeth City State University, 2010-2014

Ph.D. Major Professor: Manish Patankar

Degree Objective: Ph.D., Endocrinology and Reproductive Physiology, 2016-present

Current Thesis Title and Abstract:

Title: Understanding Extracellular Matrix Alterations in High Grade Serous Ovarian Cancer

Ovarian cancer is the fifth leading cause of cancer deaths in women and is the most lethal of the gynecological cancers because of late stage detection. High grade serous ovarian cancer (HGSOC) accounts for more than 80% of ovarian cancer diagnoses. Five-year overall survival (OS) is less than 30% but early stage detection significantly improves OS to 92%. There are no efficient clinical diagnostic tests for early detection of HGSOC. Current tests analyzing the serum (CA125, HE-4) and abdominal cavity (ultrasound) are not specific enough and are essentially insufficient in detecting early ovarian pathogenesis. **It is imperative to have a basic understanding of HGSOC etiology and the biochemical alterations associated with its progression.** The reorganization of extracellular matrix proteins, specifically collagen, is of particular interest. Previous literature has shown that collagen organization is significantly different in malignant ovarian tissues than in normal ovarian tissues. The blatant differences shown yield two main questions: How soon in disease progression does the collagen begin to change? What factors and enzymes are involved in remodeling the collagen? The completion of this thesis work will aid in the development of novel targeted therapies against collagen remodeling and will therefore stop HGSOC progression.

Funding:

National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH), TEAM Science R25GM083252, August 2016-August 2018

Sparkle of Hope Research Award 233-AAA2595, September 2018-August 2019

NIH R01 Diversity Supplement under grant RO1CA206561, September 2019-present



Honors/Awards:

Endocrinology and Reproductive Physiology Symposium Oral Presentation, "Best of Session Talk" award, May 2018

The National GEM Consortium, GEM-NSF Student Travel Grant Award, September 2019

The National GEM Consortium, Associate GEM Fellow, conferred September 2019

Basic and Pre-Clinical Poster Award, 2019 Women's Health and Health Equity Research Lecture and Symposium, UW-Madison, Department of Obstetrics and Gynecology, October 2019

Grants Received:

ERP Research Supply Grant, June 2019, \$500

ERP Recruitment Grant, September 2019, \$500

Publications:

Rentchler, E., Gant, K.L., Drapkin, R., Patankar, M. and Campagnola, P. (2019). Imaging collagen alterations in STICs and high grade ovarian cancers in the fallopian tubes by second harmonic generation microscopy. *Cancers*. 11(11):1805.

Selected Presentations:

Poster Presentation: Using Collagen Remodeling, Deposition, and Gene Expression as BioMarkers for Ovarian Cancer Development and Progression. Endocrinology and Reproductive Physiology Symposium. June 2017.

Poster Presentation: Using Collagen Remodeling, Deposition, and Gene Expression as BioMarkers for Ovarian Cancer Development and Progression. University of Wisconsin-Madison Carbone Cancer Center Research Retreat. Madison, WI. April 2018.

Oral Presentation: Biochemical Characterization of Remodeled Collagen from the Ovarian Tumor Microenvironment. Endocrinology and Reproductive Physiology Symposium. Madison, WI. May 2018.

Poster Presentation: Developing a 3D Culture System to Recapitulate the Ovarian Tumor Microenvironment (TME). Endocrinology and Reproductive Physiology Symposium. Madison, WI. April 2019.



Poster Presentation: Characterizing Collagen in Precursor Lesions of High Grade Serous Ovarian Cancer. The National GEM Consortium Annual Conference. Chicago, IL. September 2019.

Poster Presentation: Characterizing Collagen in Precursor Lesions of High Grade Serous Ovarian Cancer. Women's Health and Health Equity Research Lecture and Symposium. Madison, WI. October 2019.

Poster Presentation: Developing a 3D Culture System to Recapitulate the Ovarian Tumor Microenvironment (TME). Women's Health and Health Equity Research Lecture and Symposium. Madison, WI. October 2019.

Other Presentations:

Invited Talk. PREP Scholars Program, University of Missouri-Columbia, Columbia, MO. October 2019.

Teaching and Mentorship:

Mentor to incoming 1st year graduate students and ERP applicants, September 2017-present

Teaching Assistant (TA), Ethical Conduct of Research, September 2018-December 2018

ERP Service:

ERP Recruitment Volunteer, September 2017- present

ERP Student Committee, July 2018 - present