Curriculum Vitae

Rachel (Malinowski) Nusbaum, MS, CGC

Instructor, Department of Pediatrics

University of Maryland School of Medicine

**Date** September 13, 2016

**Contact Information**

Business Address: Master’s in Genetic Counseling Program

 685 West Baltimore Street, MSTF 3-14G

 Baltimore, MD 21201

Business Phone Number: (410) 706-4713

Fax: (410) 706-1644

Email: rachelhelene@hotmail.com

**Education**

2001 B.S., Integrated Science and Technology, James Madison University (Magna Cum Laude), Thesis Advisor – Maria Papadakis, Ph.D. “The genetics of Beta-Thalassaemia and patient counseling: A reference guide for Maltese health care professionals

2005 M.S., Genetic Counseling, University of Pittsburgh School of Public Health, Thesis Advisor – Mary Marazita, Ph.D. “Assessing the impact of prenatal diagnosis of clefting on the maternal/paternal birth experience

**Certifications**

2007 Diplomate, American Board of Genetic Counseling

**Employment History**

**Academic Appointments**

2007-2013 Instructor of Oncology, Department of Cancer Control, Lombardi Comprehensive Cancer Center, Georgetown University

2015-2016 Adjunct Assistant Professor, Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health

2016-present Instructor, Department of Pediatrics, University of Maryland School of Medicine

**Other Employment**

2001-2003 Associate Scientist, Pharmacogenetics division, Novartis Pharmaceuticals

2003-2005 Graduate Student Researcher, School of Dental Medicine, University of Pittsburgh

2005-2013 Genetic Counselor, Department of Cancer Control, Lombardi Comprehensive Cancer Center, Georgetown University

2013-2016 Laboratory Genetic Counselor, GeneDx, BioReference Laboratories, OPKO Health

2016-present Assistant Program Director, Master's in Genetic Counseling Training Program, University of Maryland School of Medicine

**Professional Society Membership**

2004-present Full member, National Society of Genetic Counselors

2005-present Cancer Special Interest Group, National Society of Genetic Counselors

2012-2013 Education Special Interest Group, National Society of Genetic Counselors

2014-present Research Special Interest Group, National Society of Genetic Counselors

**Honors and Awards**

2005 1st Prize Master’s Category, University of Pittsburgh Graduate School of Public Health Annual Research Competition

**Clinical Activities**

2005-2013 Lombardi Comprehensive Cancer Center (Genetic Counseling Clinic)

 ~150 patients per year

 Specialized in telemedicine

**Administrative Service**

**Institutional Service**

2006-2013 Member, Jess and Mildred Fisher Center for Familial Cancer Research, Georgetown University

2008-2013 Fire Marshal, 4th Floor Harris Building, Georgetown University

2009-2013 Associate Cancer Center Member, Lombardi Comprehensive Cancer Center, Georgetown University

**Local and National Service**

**National Service**

2006-2009 *Ad Hoc* Reviewer, *Journal of Genetic Counseling, Psycho-Oncology, Journal of Psychosomatic Research, Journal of Reproductive and Infant Psychology*

2008-2010 Abstract Committee Member, National Society of Genetic Counselors

2008-2010 *Ad Hoc* Chapter Reviewer, *Handbook of Genomics and the Family: Psychosocial Context for Children and Adolescents* edited by Kenneth P. Tercyak, PhD, *Confronting Hereditary Breast and Ovarian Cancer: Issues in Young Women* by Sue Friedman, Kathy Steligo and Rebecca Sutphen, MD

2009 Poster Judge, National Society of Genetic Counselors

2010-2012 Mentor, Mentor Match Program, National Society of Genetic Counselors

2011-2012 Chair Cancer SIG Grant Award, National Society of Genetic Counselors

**Local Service**

2008 Clinical Supervisor Interviewee, Re-accreditation for The Johns Hopkins University/National Human Genome Research Institute Genetic Counseling Training Program

**Teaching Service**

**Undergraduate Student Teaching**

2008 Lecturer, Wellness, Bridgewater College

2008-2013 Lecturer, Gateway: Biology of Global Health (BIOL 194), Georgetown University

**Medical Student Teaching**

2013 Co-Instructor, Physician-Patient Communication

Ten 1st year medical students

Georgetown University School of Medicine

~20 contact hours/year

**Resident and Fellow Teaching**

2006-2013 Clinical Supervisor, Cancer Genetics Clinic, Lombardi Comprehensive Cancer Center, Georgetown University, 21 Genetic Counseling Master’s Degree students

 ~50 contact hours/year

**Post-Graduate Teaching**

2011 Instructor, Independent Study

One student, Policy and Advocacy Master’s Program

Dept of Microbiology and Immunology, Georgetown University

~15 contact hours/year

2014-2016 Course Director, Cancer Genetics 4-5 students, Genetic Counseling Training Program

The Johns Hopkins University Bloomberg School of Public Health

16 contact hours/year

**Grant Support**

**Completed Grants**

2004-2009 (Genetic Counselor, 25%) PI: Marc Schwartz, PhD

 *“Decisions and Outcomes of BRCA1/2 Testing for Breast Patients”*

 National Cancer Institute, R01 CA 074961-06A2

 Total Dollar Amount: $488, 598

2004-2010 (Genetic Counselor, 25%) PI: Marc Schwartz, PhD

 *“Telephone-Based Genetic Counseling: An Equivalence Trial”*

National Cancer Institute, R01 CA108933

 Total Dollar Amount: $445, 945

2008-2011 (Genetic Counselor, 25%) PI: Marc Schwartz, PhD

 *“Internet Intervention for BRCA1/BRCA2 Uninformatives”*

National Human Genome Research Institute, 5R01 HG005055 Total Dollar Amount: $408,679

2009-2011 (Genetic Counselor, 10%) PI: Kristi Graves, PhD

 *“The Role of Behavioral Science in Personalized Genetic Medicine”*

 National Cancer Institute, 1K07CA131172-02S2

 Total Dollar Amount: $100,957

2009-2014 (Genetic Counselor, 10%) PI: Marc Schwartz, PhD

 *“Internet Decision Support for BRCA1/BRCA2 Carriers”*

 National Cancer Institute, 5R01 CA135179-03

 Total Dollar Amount: $287,968

2010-2013 (PI, 5%)

*“BRCA Tweets: A Pilot Investigation of Health Social Networking in Young BRCA1/2 Carriers”*

National Society of Genetic Counselors (NSGC) and Fisher Center for Familial Cancer Research, IRB#: 2010-286

Total Dollar Amount: $1,277

**Publications**

**Peer-reviewed journal articles**

1. Dressman MA, Baras A, **Malinowski R**, Alvis LB, Kwon I, Walz TM, Polymeropoulos MH. Gene expression profiling detects gene amplification and differentiates tumor types in breast cancer. Cancer Research. 2003; 63:2194-2199.
2. Dressman MA, **Malinowski R**, McLean LA, Gathmann I, Capdeville R, Hensley M, Polymeropoulos MH; International Randomized Study of Interferon-alpha versus ST1571 Study Group. Correlation of major cytogenetic response with a pharmacogenetic marker in chronic myeloid leukemia patients treated with imatinib (STI571). Clinical Cancer Research. 2004; 10:2265-2271.
3. **Nusbaum R**, Vogel KJ, Ready K. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. Breast Disease. 2006, 2007; 27:21-50.
4. **Nusbaum R** and Isaacs C. Management Updates for Women with a BRCA1 or BRCA2 Mutation. Molecular Diagnosis and Therapy. 2007; 11:133-144.
5. DeMarco TA, Smith KL, **Nusbaum RH**, Peshkin BN, Schwartz MD, Isaacs C. Practical Aspects of Delivering Hereditary Cancer Risk Counseling. Seminars in Oncology. 2007; 34: 369-378.
6. Peshkin BN, DeMarco TA, Graves KD, Brown K, **Nusbaum RH**, Moglia D, Forman A, Valdimarsdottir H, Schwartz MD. Telephone Genetic Counseling for High-Risk Women Undergoing BRCA1 and BRCA2 Testing: Rationale and Development of a Randomized Controlled Trial. Genetic Testing. 2008, 12:37-52.
7. **Nusbaum R**, Grubs RE, Losee JE, Weidman C, Ford MD, Marazita ML. A Qualitative Description of Receiving a Diagnosis of Clefting in the Prenatal or Postnatal Period. Journal of Genetic Counseling. 2008, 17:336–350.
8. **Nusbaum R**, Peshkin BN, DeMarco TA, Goodenberger M. Oncology Genetics: BRCA1/2 testing in newly diagnosed breast cancer patients. Community Oncology. 2009; 6:367-371.
9. DeMarco TA, **Nusbaum RH**, Peshkin BN, Patenaude AF, Schneider KA, Garber JE, Valdimarsdottir HB, Tercyak KP. Prevalence and correlates of mothers and fathers attending pretest cancer genetic counseling together. Patient Educ Couns. 2010, 78:29–33.
10. **Nusbaum R**, Leventhal KG, Hooker GW, Peshkin BN, Butrick M, Salehizadeh Y, Tuong W, Eggly S, Mathew J, Goerlitz D, Shields PG, Schwartz MD, Graves KD. Translational genomic research: protocol development and initial outcomes following SNP testing for colon cancer risk. Translational Behavioral Medicine. 2013, 3:17-29.
11. King L, O'Neill SC, Spellman E, Peshkin BN, Valdimarsdottir H, Willey S, Leventhal KG, DeMarco T, **Nusbaum R**, Feldman E, Jandorf L and Schwartz MD 2012. Intentions for bilateral mastectomy among newly diagnosed breast cancer patients. J Surg Oncol. 2013, 107:772-6.
12. Graves KD, Leventhal KG, **Nusbaum R**, Salehizadeh Y, Hooker GW, Peshkin BN, Butrick M, Tuong W, Mathew J, Goerlitz D, Fishman MB, Shields PG and Schwartz MD. 2013. Behavioral and Psychosocial Responses to Genomic Testing for Colorectal Cancer Risk. Genomics. 2013, 102:123-30.
13. Schwartz MD1, Valdimarsdottir HB, Peshkin BN, Mandelblatt J, **Nusbaum R**, Huang AT, Chang Y, Graves K, Isaacs C, Wood M, McKinnon W, Garber J, McCormick S, Kinney AY, Luta G, Kelleher S, Leventhal KG, Vegella P, Tong A, King L. Randomized noninferiority trial of telephone versus in-person genetic counseling for hereditary breast and ovarian cancer. J Clin Oncol. 2014 Mar 1;32(7):618-26
14. Butrick, MN, Vanhusen L, Leventhal KG, Hooker GW, **Nusbaum R**, Peshkin BN, Salehizadeh Y, Pavlick J, Schwartz MD & Graves, KD. Discussing race-related limitations of genomic testing for colon cancer risk: implications for education and counseling. Soc Sci Med. 2014 Aug;114:26-37.
15. Butrick M, Kelly S, Peshkin BN, Luta G, **Nusbaum R**, Hooker GW, Graves K, Feeley L, Isaacs C, Valdimarsdottir HB, Jandorf L, DeMarco T, Wood M, McKinnon W, Garber J, McCormick SR, Schwartz MD. Disparities in uptake of BRCA1/2 genetic testing in a randomized trial of telephone counseling. Genet Med. 2015 Jun;17(6):467-75.
16. Tong A, Kelly S, **Nusbaum R**, Graves K, Peshkin BN, Valdimarsdottir HB, Wood M, McKinnon W, Garber J, McCormick SR, Jandorf L, Schwartz MD. Intentions for risk-reducing surgery among high-risk women referred for BRCA1/BRCA2 genetic counseling. Psychooncology. 2015 Jan;24(1):33-9.
17. Peshkin BN, Kelly S, **Nusbaum RH**, Similuk M, DeMarco TA, Hooker GW, Valdimarsdottir HB, Forman AD, Rispoli Joines J, Davis C, McCormick SR, McKinnon W, Graves KD, Isaacs C, Garber J, Wood M, Jandorf L, Schwartz MD. Patient Perceptions of Telephone vs. In-Person BRCA1/BRCA2 Genetic Counseling. Journal of Genetic Counseling. 2016 Jun;25(3):472-82.
18. Susswein LR, Marshall ML, **Nusbaum R**, Vogel Postula KJ, Weissman SM, Yackowski L, Vaccari EM, Bissonnette J, Booker JK, Cremona ML, Gibellini F, Murphy PD, Pineda-Alvarez DE, Pollevick GD, Xu Z, Richard G, Bale S, Klein RT, Hruska KS, Chung WK. Pathogenic and likely pathogenic variant prevalence among the first 10,000 patients referred for next-generation cancer panel testing. Genet Med. 2016 Aug;18(8):823-32.
19. Jacobs AS, Schwartz MD, Valdimarsdottir H, **Nusbaum RH**, Hooker GW, DeMarco TA, Heinzmann J, McKinnon W, McCormick SR, Davis C, Forman AD, Lebensohn AP, Dalton E, Tully DM, Graves KD, Similuk M, Kelly S, Peshkin BN. Patient and genetic counselor perceptions of in-person versus telephone genetic counseling for hereditary breast/ovarian cancer. Fam Cancer. 2016 Mar 11. [Epub ahead of print].

**Other Brief Communications**

Peshkin BN, **Nusbaum RH**, DeMarco TA. Genetic Counseling About Reproductive Options for Hereditary Cancer: What Is the Standard of Care? Journal of Clinical Oncology 2007; 25: 911-a-912.

**Major Invited Speeches**

Local

1. **Nusbaum R.** Hereditary Breast Cancer, Prince William Hospital Breast Cancer Awareness Month Symposium, Manassas, VA, 2006
2. **Nusbaum R.** Specializing in genetic counseling. Genetic Counseling Seminar: Topics in the Field. The Johns Hopkins Bloomberg School of Public Health, Bethesda, MD, 2007
3. **Nusbaum R**. Selected Hereditary Cancer Syndromes in the Ashkenazi Jewish population. Jewish Genetic Diseases: Diagnosis, Management and Treatment Updates Symposium, Bethesda, MD, 2008
4. **Nusbaum R.** Hereditary Breast Cancer: BRCA1/2 and Beyond, Georgetown University Hospital Neonatal Grand Rounds; Washington, DC, 2008
5. **Nusbaum R**. Peshkin B, DeMarco T, Butrick M, Cancer genetic counseling – themes and challenges, Georgetown University Genetics Case Conference Series, Washington, DC, 2011
6. **Nusbaum R**. Peshkin B, DeMarco T, The use of tumor testing to identify patients with Lynch syndrome, Georgetown University Gastrointestinal Research Meeting, Washington, DC, 2011
7. **Nusbaum R.** Genetic Counseling and Testing in Oncology, Georgetown University General Surgical Resident’s Education Conference, Washington, DC, 2013
8. **Nusbaum R.** Mammographic Sensitivity in Young BRCA Carriers, Multidisciplinary Breast Cancer Conference presentation, Georgetown Lombardi Cancer Center, Washington, DC, 2013
9. **Nusbaum R**. My Baby and the Science Fiction Procedure: an insider’s view into the world of fetal cardiology. Genetic Counseling Seminar: Topics in the Field, The Johns Hopkins Bloomberg School of Public Health.
10. **Nusbaum R**. Variant Classification: Behind the Scenes. Exome Sequencing Workshop, The Johns Hopkins Bloomberg School of Public Health, 2015

National

1. **Nusbaum R.** Randomized Trial of Telephone Genetic Counseling vs. Standard Genetic Counseling. National Society of Genetic Counselors Annual Education Conference Pre-conference Symposia, Atlanta, GA, 2009
2. **Nusbaum R**. A Womb with a View: A Fetal Surgery Primer for Genetic Counselors. National Society of Genetic Counselors Annual Education Conference Pre-conference Symposia, Pittsburgh, PA, 2015
3. **Nusbaum R.** Putting the Pieces Together: Applying the ACMG Guidelines to Variant Interpretation. GeneDx Webinar. <http://www.genedx.com/genedxwebinarseries/>, 2015

**Proffered Communications**

1. **Malinowski R**, Capdeville R, Gathmann I, Kudaravalli S, Polymeropoulos MH, Dressman MA and IRIS (International Randomized IFN vs STI571) Study Group. Pharmacogenetic analysis in a GleevecTM/Glivec® study of patients with CML identifies an association between fluid retention and a polymorphism on IL1B. Poster presented at the annual meeting of the American Society of Human Genetics, Baltimore, MD 2002.
2. **Malinowski RH**, Dressman M, McLean LA, Gathman I, Capdeville R, IRIS (International Randomized IFN vs STI571) Study Group, Polymeropoulos MH. Pharmacogenetic analysis of cytogenetic response in chronic myelogenous leukemia patients treated with imatinib (Glivec®/Gleevec™, STI571). Poster session presented to the American Society of Hematology Conference, Philadelphia, PA, USA, 2002.
3. **Malinowski R**, Grubs RE, Marazita ML, Losee JE, Weidman C, Ford M. A qualitative description of the parental experience of receiving a diagnosis of clefting in the prenatal or postnatal period. Oral presentation to the 24th annual meeting of the National Society of Genetic Counselors, Los Angeles, CA, 2005.
4. DeMarco T, Peshkin BN, **Nusbaum R**, Tercyak KP. Parent perspectives on communicating with minor-age children about hereditary breast/ovarian cancer risks and maternal BRCA1/2 genetic testing. Oral presentation to the 26th annual meeting of the National Society of Genetic Counselors, Kansas City, MO, 2007. Best abstract award.
5. Vegella, P, DeMarco, T, Graves, K, Kelleher, S, Amendola, C, Kelly, S, **Nusbaum, R**, Peshkin, B, McKinnon, E, Wood, M, Valdimarsdottir, H, & Schwartz, M. Differences in psychosocial variables between unaffected relatives and probands pursuing BRCA1/2 genetic counseling. Poster session presented to the American Association of Cancer Research Frontiers in Cancer Prevention Conference, Philadelphia, PA, USA, December, 2007.
6. **Nusbaum R**, Peshkin B, Kelleher S, Kelly S, Willey S, Pennanen M, Cocilovo C, Evangelista R, Rowse J, Isaacs C, Valdimarsdottir H, & Schwartz M. A randomized trial of rapid genetic counseling versus usual care for high-risk women with newly diagnosed breast cancer. Poster session presented to the American Association of Cancer Research Frontiers in Cancer Prevention Conference, Philadelphia, PA, USA, December, 2007.
7. Kelleher S, **Nusbaum R**, Peshkin B, Graves K, Vegella P, Kelly S, Willey S, Pennanen M, Cocilovo C, Evangelista R, Rowse J, Valdimarsdottir H, Isaacs C, Schwartz M. Predictors of Knowledge about Genetic Risk in Newly Diagnosed Breast Cancer Patients. Poster session presented at the annual meeting of the American Society of Preventive Oncology, Bethesda, MD, USA, March, 2008.
8. **Nusbaum R**, Kelly S, Peshkin BN, Isaacs C, Kelleher S, Vegella P, Leventhal KG, Willey S, Cocilovo C, Evangelista R, Magnant C, Rowse J, Forman A, Carroll E, Jandorf L, Valdimarsdottir H & Schwartz MD. Predictors of BRCA1/2 genetic testing in a population of newly diagnosed breast cancer patients. Poster session presented to the American Association of Cancer Research Frontiers in Cancer Prevention Conference, Washington, DC, USA, November, 2008.
9. Leventhal K, Peshkin B, Kelly S, **Nusbaum R**, Kelleher S, Vegella P, Issacs C, Willey S, Cocilovo C, Evangelista R, Magnant C, Valdimarsdottir H, Schwartz M, Graves K. Predictors of Cancer Risk Assessment Accuracy in Newly Diagnosed Breast Cancer Patients. Poster session presented to the American Society of Preventive Oncology, Tampa, FL, USA, March, 2009.
10. Graves K, Peshkin B, DeMarco T, **Nusbaum R**, Valdimarsdottir H, Schwartz M. When What You Can’t Say Can Hurt You: Impact of Social Constraints on Psychosocial Outcomes Following BRCA1/2 Genetic Testing. Poster session presented to the American Society of Preventive Oncology, Bethesda, MD, USA, March, 2010.
11. **Nusbaum R**, Leventhal K, Peshkin B, Tuong W, Salehizadeh Y, Schwartz M & Graves K. Initial outcomes from offering colon cancer SNP testing. Oral presentation presented to the 4th National Conference on Genomics and Public Health. Bethesda, MD, USA, December, 2010.
12. King, L., Vegella, P., Peshkin, B., **Nusbaum, R**., Leventhal, K.G., Willey, S., Kelly, S., Pennanen, M., Cocilovo, C., Valdimarsdottir, H., Evangelista, R., Rowse, J., Isaacs, C., and Schwartz, M. Predictors of BRCA1/2 Testing in Newly Diagnosed Breast Cancer Patients. Poster session presented to the Society of Behavioral Medicine Conference, Washington, DC, USA, April, 2011.
13. Tong, A.G., Vegella, P., **Nusbaum, R**., Graves, K., Kelly, S., DeMarco, T., Peshkin, B., Valdimarsdottir, H., & Schwartz, M.D. Predictors of Risk Reducing Surgical Intentions among Probands and Unaffected Relatives Pursuing BRCA 1/2 Genetic Testing. Poster session presented to the Society of Behavioral Medicine, Washington, DC, USA, April, 2011.
14. **Nusbaum R**, Leventhal K, Hooker G, Peshkin B, Butrick M, Salehizadeh Y, Tuong W, Eggly S, Shields P, Schwartz M & Graves K. Responses to SNP Testing for Colon Cancer Risk. Poster session presented to the American Society of Preventive Oncology, Washington, DC, USA, March 2012.
15. Graves KD, Leventhal KG, **Nusbaum R**, Salehizadeh Y, Hooker GW, Peshkin BN, Butrick M, Tuong W, Mathew J, Goerlitz D, Fishman MB, Shields PG & Schwartz MD. Behavioral and Psychosocial Responses to Genomic Testing for Colorectal Cancer Risk. Poster session presented to the American Society of Preventive Oncology, Washington, DC, USA, March 2012.
16. **Nusbaum R**, Sharff M, DeMarco T, & Peshkin BN. Don’t Google It: Perceptions of internet use and social networking among young BRCA1/2 carriers. Poster session presented to the National Society of Genetic Counselors, Boston MA, USA, October 2012.
17. Vanhusen, L., Feeley, L., Kelley, S., **Nusbaum, R**., Peshkin, B.N., Butrick, M., Graves, K., Valdimarsdottir, H., Schwartz, M.D. Impact of Telephone vs. In-Person Delivery of BRCA Genetic Counseling/Testing on Subsequent Use of Support Services. Poster session presented to the American Society of Preventive Oncology, Memphis, Tenessee, USA, March 2013.
18. **Nusbaum R**, Susswein L, Hruska K, Hussong M, Berkofsky-Fessler W, Liao M, Rinella E, Sanapareddy S, Villar J, Wan H, Xu Z, Bassett RY, McKeen E, Murphy C, Pencarinha D, Booker J, Cremona ML, Murphy P, Klein RT. Individuals with more than one pathogenic variant: rationale for considering multi-gene panel testing for cancer susceptibility. Poster session presented to the San Antonio Breast Cancer Symposium, San Antonio, Texas, USA, December 2014.
19. Evans CN, **Nusbaum R**, Isaacs C, Tercyak KP & O’Neill S. Assessing Patient Education and Counseling Needs of Young Women at High Risk for Breast Cancer. Poster session presented to the Society of Behavioral Medicine, San Antonio, Texas, USA, April 2015.
20. McGill A, Hiraki S, **Nusbaum R**, Klein R, Hruska K. Comparing Yields and Referral Criteria for the Lynch/Colorectal High Risk Panel and the Colorectal Cancer Panel. Poster session presented to the National Society of Genetic Counselors, Pittsburgh, PA, USA, October 2015.
21. Andolina LM, **Nusbaum R**, Susswein LR, Solomon SR, Hruska KS, Klein RT. Yield of Pathogenic/Likely Pathogenic Variants in Women with Breast Cancer Undergoing Hereditary Cancer Panel Testing. Oral presentation to the American Society of Human Genetics, Baltimore, MD, USA October 2015.
22. **Nusbaum R**, Theobald KA, Murphy PD, Susswein L, Cremona ML, Doonanco K, Klein RT, Hruska KS. Cancer presentation stratified by type of variant in a large cohort of individuals with Pathogenic and Likely Pathogenic CHEK2 Variants. Poster session presented to the American College of Medical Genetics and Genomics, Tampa, FL, USA, March 2016.