ACGC Course Director Biosketch Format (*Approved by BOD: January 2024*)

COURSE DIRECTOR/FACULTY TEACHING BIOGRAPHICAL SKETCH

Follow this format for all faculty course directors (For courses directed by program leadership use the Program Directors/Co-Directors or other Program Leadership form).

DO NOT EXCEED FOUR PAGES

NAME: Kathleen F. Mittendorf

INSTITUTION POSITION TITLE: Senior Staff Scientist (Research Assistant Professor effective July 1, 2024)

GRADUATE PROGRAM POSITION TITLE: Research 2 Course co-Director; Research Review Committee Member

EDUCATION/TRAINING: *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
DePauw University, Greencastle, IN	BA	05/2010	Biochemistry
Vanderbilt University, Nashville, TN	PhD	08/2015	Biochemistry (Molecular Biophysics)
Oregon Health & Sciences University	Other	05/2020	Human Investigations Program
Kaiser Permanente Northwest, Portland, OR	Other (Mentored career development project, investigator level)	06/2021	Applied genomics, qualitative research, and implementation science

A. **Course Title(s):** Research 2

B. **Please provide a brief statement of expertise and/or skill set that you offer for students taking the course(s) you are responsible for teaching (Standard A2.5.2).** *If you will be asked to teach an online course, please list completed training and/or education related to distance learning. In addition, please include a description of your knowledge and content expertise related to genetic counselor specific education. Please describe training or experiences which have supported the development of your teaching skills. Please describe any future plan for obtaining training to support the ongoing development of teaching skills*)**.**

My expertise in translational genomics research makes me well-suited to co-direct research courses in the field of genetic counseling. I have been conducting research as a doctorate-level scientist in these domains since 2015 and have received formal training in both quantitative and qualitative approaches to translational genomics, including in the informatics space. I have been involved in the design and conduct of multiple large translational genomics projects and clinical trials where I held leadership roles, including as co-investigator and was involved in training or functional supervision of staff. Examples include work on NHGRI ClinGen's Actionability Working Group, the NHGRI CSER consortium, the NHGRI eMERGE Network, and an NCI Cancer Moonshot project (FOREST). I led multiple NIH-funded supplemental projects to these awards as supplement principal investigator, including a career development award to promote diversity in health-related research and an NCI-funded supplement that offered a research stipend to a genetic counseling student (Makenna Martin, VU MGC '24). I am a site principal investigator and co-investigator on the R01 that funded PREMMplus model development with Dr. Sapna Syngal, a leading Lynch syndrome expert and the developer of all PREMM models. I am co-investigator on an R21 for the development of a

tool that automates clinical decision support linked to patient genomic results.

I have been involved in student education and training since my undergraduate years, where I was a university-hired tutor for multiple STEM courses, and a laboratory teaching assistant (Biochem 240). In graduate school, I was TA for the graduate structural biology course and mentored an undergraduate student, whose undergraduate work was published and who recently received a doctoral degree. I have mentored many undergrad and medical student research personnel, as well as developed formal research staff training materials in several competencies, including presentation skills, writing skills, protocol development, and informatics applications. I have been thesis advisor to one student in the VU MGC program (Makenna Martin, '24), committee member to an additional student (Mryia Hubert, MSGC, '23), and the RRC committee member for a third student (Allison Binsfield, '25). I served as co-director of the Research 2 course in Spring 2024, where I revised materials on proposal development and revised proposal formatting to better help students think through research questions and how to address them.

As a disabled individual, I work entirely virtually. I have been engaging in distance work since 2016. Nearly all educational content, teaching, and mentorship I have engaged in since that time has been via distance approaches. I have an engagement style of "work-aloud" interactive course work. Students also complete several participation projects for which they are given a participation grade – these interactions occur virtually in verbal exchange as well as via Brightspace, which also permits other students with learning disabilities and other types of neurodivergence alternative formats for engagement. I am nationally recognized for my contributions to disruption of ableism in the sciences through novel approaches to disability accommodation; I wrote a commissioned paper for the National Academies of Science, Engineering, and Medicine (NASEM) in 2023 and gave a presentation during a virtual workshop. In 2024 I will be part of a panel hosted by NASEM assessing progress since that time. I also engage in ongoing training and rubric development with Jill Slamon, Assistant Director of VU MGC.

C. Positions, certification, and honors *(include dates)***:**

I. Positions and employment:

2023-present	Research 2 Co-Course Director, Vanderbilt University Master of Genetic Counseling Program, Vanderbilt University School of Medicine
2021-present	Senior Staff Scientist, Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN
2017-2021	Research Associate III, Center for Health Research, Kaiser Permanente Northwest, Portland, OR
2016-2017	Staff Scientist, Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN
2015-2016	Research Analyst III, My Cancer Genome, Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN
2010-2015	Graduate student, Ph.D. candidate, Department of Biochemistry, Molecular Biophysics Training Program, Vanderbilt University, Nashville, TN
2008-2010	Quantitative Reasoning Consultant, DePauw University, Greencastle IN 2007-2009
2007-2010	Undergraduate Researcher, DePauw University, Greencastle, IN

II. Certification (please include specific field): N/A

III. Honors:

2017	Keynote Address: DePauw University Academic Awards Convocation
2015	2015 Karpay Award in Structural Biology
2012-13	Molecular Biophysics Training Program Training Grant (T31)
2010-15	University Graduate Fellowship Award (Stipend Supplement Enticement)
2010-15	NSF Graduate Research Fellowship
2008-10	Barry M. Goldwater Scholarship
2006-10	National Merit Scholar
2006-10	Full Tuition Merit Scholarship, DePauw University

D. Please list your Teaching/Mentorship/Clinical Supervision/Leadership Activities. *(within the last 5 years)***:**

2023-Present	Vanderbilt-Ingram Cancer Center Diversity, Equity, and Inclusion Working Group Member
2022-Present	VU MGC Thesis Committee Member
2022-Present	VU MGC Thesis Advisor
2022-Present	VUMC Pride ERG Educational Workgroup Member
2020-2021	KPNW Pride BRG Communications Chair

2017-2020	KPNW Pride Leadership Team, Champion Role

E. **Professional Activities** *(Within the last 5 years):*

2021-Present	VUMC Pride ERG Member
2021-Present	VUMC Disability ERG Member
2017-2021	KPNW Pride BRG Member

F. **Research, funded grants and/or scholastic endeavors including accepted abstracts and other publications:** *(Please only include accomplishments from the last 5 years):* Complete list of published work in MyBibliography; funding sources are listed in publications: https://www.ncbi.nlm.nih.gov/myncbi/1ZudIk8cVstcat/bibliography/public/

Selected Works in Research Related to Genetics and Genetic Counseling

1. Hereditary Cancer

I have been in the hereditary cancer field since 2017 (see above for selected publications as lead author). Examples of my work include work on the Cancer Health Assessments Reaching Many (CHARM) study, investigating strategies to improve access to genetic counseling and testing for diverse patients with increased risk of hereditary cancer syndromes and work evaluating barriers to and uptake of hereditary cancer-related risk reducing care.

a) Guo B, Knerr S, Kauffman TL, **Mittendorf KF**, Keast E, Gilmore MJ, Feigelson HS, Lynch FL, Muessig KR, Okuyama S, Zepp JM, Veenstra DL, Hsu L, Phipps AI, Lindström S, Leo MC, Goddard KAB, Wilfond BS, Devine B; CHARM Study team. Risk management actions following genetic testing in the Cancer Health Assessments Reaching Many (CHARM) Study: A prospective cohort study. Cancer Med. 2023 Sep;12(18):19112-19125. doi: 10.1002/cam4.6485. Epub 2023 Aug 30. PMID: 37644850; PMCID: PMC10557878.
b) Knerr S, Guo B, **Mittendorf KF,** Feigelson HS, Gilmore MJ, Jarvik GP, Kauffman TL, Keast E, Lynch FL, Muessig KR, Okuyama S, Veenstra DL, Zepp JM, Goddard KAB, Devine B. Risk-reducing surgery in unaffected individuals receiving cancer genetic testing in an integrated health care system. Cancer. 2022 Aug 15;128(16):3090-3098. doi: 10.1002/cncr.34349. Epub 2022 Jun 9. PMID: 35679147; PMCID: PMC9308746.
c) Lindberg NM, **Mittendorf KF**, Duenas DM, Anderson K, Koomas A, Kraft SA, Okuyama S, Shipman KJ, Vandermeer ML, Goddard KA, Wilfond BS, McMullen C. Engaging Patient Advisory Committees to Inform a Genomic Cancer Risk Study: Lessons for Future Efforts. *Perm J*. 2022 Jun 29;26(2):28-39. doi: 10.7812/TPP/21.091. Epub 2022 Jun 17. PMID: 35933674; PMCID: PMC9662241.
d) **Mittendorf KF,** Hunter JE, Schneider JL, Shuster E, Rope AF, Zepp J, Gilmore MJ, Muessig KR, Davis JV, Kauffman TL, Bergen KM, Wiesner GL, Acheson LS, Peterson SK, Syngal S, Reiss JA, Goddard KAB. Recommended care and care adherence following a diagnosis of Lynch syndrome: a mixed-methods study. Hered Cancer Clin Pract. 2019 Dec 16;17:31. doi: 10.1186/s13053-019-0130-8. PMID: 31890059; PMCID: PMC6915941.

2. Precision Oncology

Since 2015, I have worked in bioinformatics applications in somatic cancer genomics and contributed to data models that power the public-facing resource My Cancer Genome (MCG), a website that is viewed 8,000 times a week by individuals in 211 countries and territories. This data model was used in a commercial partnership to power generation of over 40,000 interpretative genomic reports for 31 academic medical centers and commercial labs. I now work on the development of genomic- and biomarker-directed clinical decision support at VUMC.

a) Lippenszky L, **Mittendorf KF**, Kiss Z, LeNoue-Newton ML, Napan-Molina P, Rahman P, Ye C, Laczi B, Csernai E, Jain NM, Holt ME, Maxwell CN, Ball M, Ma Y, Mitchell MB, Johnson DB, Smith DS, Park BH, Micheel CM, Fabbri D, Wolber J, Osterman TJ. Prediction of Effectiveness and Toxicities of Immune Checkpoint Inhibitors Using Real-World Patient Data. JCO Clin Cancer Inform. 2024 Feb;8:e2300207. doi: 10.1200/CCI.23.00207. PMID: 38427922; PMCID: PMC10919473.
b) Rahman P, Ye C, **Mittendorf KF,** Lenoue-Newton M, Micheel C, Wolber J, Osterman T, Fabbri D. Accelerated curation of checkpoint inhibitor-induced colitis cases from electronic health records. JAMIA Open. 2023 Apr 1;6(1):ooad017. doi: 10.1093/jamiaopen/ooad017. PMID: 37012912; PMCID: PMC10066800.
c) Holt ME, **Mittendorf KF,** LeNoue-Newton M, Jain NM, Anderson I, Lovly CM, Osterman T, Micheel CM, Levy MA. My Cancer Genome: coevolution of precision oncology and a molecular oncology knowledgebase. *JCO Clin Cancer Inform*. 2021. 5:995-1004. DOI: 10.1200/CCI.21.00084

d) Neha J, **Mittendorf KF**, Holt M, Lenoue-Newton M, Maurer I, Miller C, Stachowiak M, Botyrius M, Cole J, Micheel C, Levy M. The My Cancer genome clinical trial data model and trial curation workflow. *J Am Med Inform Assoc*. 2020. 27:1057-1066. PMCID: PMC7647323

3. Ethical, Legal, and Social Implications (ELSI)

Broadly, I am interested in the ethical, legal, and social implications of genomics research—and its impact on clinical practice—in populations and individuals experiencing marginalization. I am a member of the ELSI work group in the eMERGE Network, and most of my past research is in translational genomics through an equity- and ELSI-informed lens. It is critical to continually evaluate our research approaches to ensure we are not engaging in health equity tourism or intervention research that ultimately harms the population we purport to help.

a) Clayton EW, Bland HT, **Mittendorf KF**. Protecting Privacy of Pregnant and LGBTQ+ Research Participants. *JAMA*. 2024 Apr 15. doi: 10.1001/jama.2024.4837. Epub ahead of print. PMID: 38619831.
b) **Mittendorf KF**, Knerr S, Kauffman TL, Lindberg NM, Anderson KP, Feigelson HS, Gilmore MJ, Hunter JE, Joseph G, Kraft SA, Zepp JM, Syngal S, Wilfond BS, Goddard KAB. Systemic Barriers to Risk-Reducing Interventions for Hereditary Cancer Syndromes: Implications for Health Care Inequities. *JCO Precis Oncol*. 2021 Nov 3;5: PO.21.00233. eCollection. PMCID: PMC8585306
c) Lindberg NM, Gutierrez AM, **Mittendorf KF,** Ramos MA, Anguiano B, Angelo F, Joseph G. Creating accessible Spanish language materials for Clinical Sequencing Evidence-Generating Research consortium genomic projects: challenges and lessons learned. *Per Med*. 2021 Sep;18(5):441-454. doi: 10.2217/pme-2020-0075. Epub 2021 Aug 27. PubMed PMID: 34448595; PMCID: PMC8438935.
d) Rolf BA, Schneider JL, Amendola LM, Davis JV, **Mittendorf KF**, Schmidt MA, Jarvik GP, Wilfond BS, Goddard KAB, Ezzell Hunter J. Barriers to family history knowledge and family communication among LGBTQ+ individuals in the context of hereditary cancer risk assessment. J Genet Couns. 2022 Feb;31(1):230-241. doi: 10.1002/jgc4.1476. Epub 2021 Jul 23. PMID: 34302314; PMCID: PMC8783924.

3. Broad Genomics Applications

From 2017-2021, I was a member of the Clinical Genome Resource (ClinGen) Actionability Working Group. I applied standardized literature review to curate reports that were disseminated to the public on clinicalgenome.org. The results of this work are used by the ACMG Secondary Findings WG and the Centers for Disease Control to provide professional recommendations about return of secondary findings to patients undergoing genome-wide sequencing. I am now a member of the eMERGE Network, where I am in charge of the clinical integration of eMERGE results at VUMC– both for use by study genetic counselors and for use by their institutional care team.

a) Linder JE, Allworth A, Bland HT, Caraballo PJ, Chisholm RL, Clayton EW, Crosslin DR, Dikilitas O, DiVietro A, Esplin ED, Forman S, Freimuth RR, Gordon AS, Green R, Harden MV, Holm IA, Jarvik GP, Karlson EW, Labrecque S, Lennon NJ, Limdi NA, **Mittendorf KF**, et al. Returning integrated genomic risk and clinical recommendations: The eMERGE study. *Genet Med*. 2023 Apr;25(4):100006. doi: 10.1016/j.gim.2023.100006. Epub 2023 Jan 6. PMID: 36621880; PMCID: PMC10085845.
b) Ferket BS, Baldwin Z, Murali P, Pai A, **Mittendorf KF,** Russell HV, Chen F, Lynch FL, Lich KH, Hindorff LA, Savich R, Slavotinek A, Smith HS, Gelb BD, Veenstra DL. Cost-effectiveness frameworks for comparing genome and exome sequencing versus conventional diagnostic pathways: A scoping review and recommended methods. *Genet Med*. 2022 Oct;24(10):2014-2027. doi: 10.1016/j.gim.2022.06.004. Epub 2022 Jul 14. PMID: 35833928; PMCID: PMC9997042.
c) Paquin RS, **Mittendorf KF**, Lewis MA, Hunter JE, Lee K, Berg JS, Williams MS, Goddard KAB. Expert and lay perspectives on burden, risk, tolerability and acceptability of clinical interventions for genetic disorders. *Genet Med.* 2019 Apr 26. PMCID: PMC6815237
d) Webber EM, Hunter JE, Biesecker LG, Buchanan AH, Clarke EV, Currey E, Dagan-Rosenfeld O, Lee K, Lindor NM, Martin CL, Milosavljevic A, **Mittendorf KF**, Muessig KR, O'Daniel JM, Patel RY, Ramos EM, Rego S, Slavotinek AM, Sobriera NM, Weaver MA, Williams MS, Evans JP, Goddard KAB, on behalf of the ClinGen Resource. Evidence-based assessments of clinical actionability in the context of secondary findings: Updates from ClinGen's Actionability Working Group. *Hum Mut.* 2018;39:1677–1685. PMCID: PMC6211797