

CONTACT INFORMATION

University of Kentucky
Department of Epidemiology
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Lexington, KY 40502
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DATE AND PLACE OF BIRTH

May 6, 1982; Binghamton, New York

EDUCATION

- 2000 – 2004 University of Rhode Island (Kingston, Rhode Island), **Bachelor of Science**, Biology, Chemistry
- 2004 – 2005 National Cancer Institute (Bethesda, Maryland), **Cancer Research Training Fellowship**, Laboratory of Cancer Biology and Genetics, Molecular Mechanisms of Tumor Promotion Section, Mentor: Peter M. Blumberg, Ph.D.
- 2005 – 2011 University of Pennsylvania (Philadelphia, Pennsylvania), **Doctor of Philosophy**, Pharmacology, *Development of Novel Hepatitis C Virus DNA Vaccines*, Mentor: David B. Weiner, Ph.D.
- 2011 – 2012 Johns Hopkins Bloomberg School of Public Health (Baltimore, Maryland), **Master of Public Health**, Concentration in Epidemiology and Biostatistics
- 2011 – 2016 National Cancer Institute (Bethesda, Maryland), **Cancer Prevention Postdoctoral Fellowship Program**, Division of Cancer Epidemiology and Genetics, Infections and Immunoepidemiology Branch, Mentor: Aimée R. Kreimer, Ph.D.

ACADEMIC APPOINTMENTS

- 2016 – 2020 **Assistant Professor**, Department of Medicine, Division of Epidemiology, Vanderbilt University Medical Center (primary appointment); Department of Otolaryngology, Vanderbilt University Medical Center (secondary appointment)
- 2016 – 2020 **Member**, Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center
- 2020 – Present **Associate Professor**, Department of Epidemiology, College of Public Health, University of Kentucky
- 2020 – Present **Co-Leader**, Cancer Prevention and Control Research Program, Markey Cancer Center, University of Kentucky

PROFESSIONAL ORGANIZATIONS

- 2012 – Present International Papillomavirus Society
- 2015 – Present The Society for Epidemiologic Research

PROFESSIONAL ACTIVITIES

Leadership and Service

- 2009 **Consultant**, Penn Biotech Group (Philadelphia, Pennsylvania)
- 2012 **Head**, Worksite Wellness Subcommittee, Maryland Cancer Collaborative (Baltimore, Maryland)
- 2016 – 2019 **Phenotype Reviewer**, Vanderbilt BioVU Review Committee (Nashville, Tennessee)

2017 **Judge**, Vanderbilt Postdoctoral Association Annual Symposium (Nashville, Tennessee)
 2017 – 2019 **Research Advisor**, Vanderbilt Short Pipeline Partnership Program (Nashville, Tennessee)
 2017 – 2018 **Research Advisor**, Vanderbilt University Medical School Research Immersion (Nashville, Tennessee)
 2017 – 2018 **Research Advisor**, Vanderbilt Otolaryngology Resident Research Immersion (Nashville, Tennessee)
 2018 **Judge**, Vanderbilt Department of Otolaryngology Resident Research Symposium (Nashville, Tennessee)
 2018 **Consultant**, NCI/IARC Workshop on HPV-driven Oropharynx Cancer (NCI, Shady Grove, Maryland)
 2019 **Judge**, Vanderbilt Translational Research Forum (Nashville, Tennessee)

Committees

2012 – 2013 **Member**, NCI Division of Cancer Prevention Immunoprevention Working Group (Bethesda, Maryland)
 2012 – 2015 **Member**, Cancer Prevention Fellows' Advisory Board (Bethesda, Maryland)
 2013 – 2014 **Representative**, Cancer Prevention Fellowship Representative for the NIH Fellows Committee (Bethesda, Maryland)
 2017 – 2019 **Member**, HPV-ACTIVE Symposium Planning Committee (Nashville, Tennessee)
 2020 – **Member**, Scientific Advisory Committee, Oncogenomics Shared Resource Facility, Markey Cancer Center (Lexington, Kentucky)

Grant Review Service

2012 – 2016 NCI Division of Cancer Prevention (Bethesda, Maryland)
 2019 Swiss Cancer League
 2019 – NIH Early Career Reviewer (ECR) Program (Accepted, not yet called to serve)
 2020 – Department of Defense, Peer Reviewed Cancer Research Program, Head and Neck Cancer Panel 3, Ad Hoc Chair

Journal Review Service (Ad Hoc)

BMC Infectious Diseases
British Journal of Cancer
Cancer
Cancer Epidemiology Biomarkers & Prevention
Cancer Research
Head and Neck
Hepatology
International Journal of Cancer
Journal of Infectious Diseases
Journal of the National Cancer Institute
Lancet Infectious Disease
New England Journal of Medicine
Oral Oncology
Tumor Biology

Patents

HCV Vaccine and Methods for Using the Same (US 8,829,174 B2), Awarded: Sept. 9, 2014. Evaluated in a Phase I clinical trial, ClinicalTrials.gov identifier: NCT02027116.

Awards and Honors

- 2008 – 2011 Cancer Research Institute T32 Pre-doctoral Training Award:
Pre-doctoral Emphasis Pathway in Tumor Immunology
- 2014 NIH Fellows Award for Research Excellence (\$1,000 travel award)
- 2015 American Society of Preventive Oncology (ASPO) New Investigator Award
- 2016 NCI Division of Cancer Epidemiology and Genetics:
Fellows Award for Research Excellence (\$1,500 travel award)

TEACHING ACTIVITIES

- 2014 **Guest Lecturer**, *Special Topics in Epidemiology of Infectious Diseases and Cancer*, University of Nebraska College of Public Health (Omaha, Nebraska)
- 2014 **Co-course coordinator**, developed a new undergraduate 12 lecture course entitled: *Concepts in Cancer and Cancer Prevention*, Johns Hopkins University (Bethesda, Maryland), course cancelled due to low enrollment
- 2019 **Guest Lecturer**, *Key elements of a successful career development grant*, Vanderbilt University Medical Center (Nashville, Tennessee)

MENTORING EXPERIENCE

Research Advisor

- 2008 – 2009 Shaheed Abdulhaqq, Predoctoral Student, Current: Oregon Health & Science University (Postdoctoral Fellow)
- 2008 – 2009 Laurel Redding, Doctoral Student, Current: University of Pennsylvania (Assistant Professor of Epidemiology)
- 2009 – 2010 Roberta Toporovski, Predoctoral Student, Current: Bristol-Myers Squibb (Process Scientist)
- 2009 – 2011 Arielle Ginsberg, Laboratory Trainee, Current: Immunocytometry Systems (Technical Application Specialist)
- 2016 – 2017 Samantha Cummins, Medical Student, Vanderbilt University Medical Center
- 2016 – 2017 Deborah Xi, Medical Student, Vanderbilt University Medical Center
- 2017 – 2018 Jeremy Stelmack, Master of Public Health Student, Vanderbilt University
- 2017 – 2018 Jacqueline Harris, Medical Student, Vanderbilt University
- 2017 – Present Benjamin Campbell, Medical Student, Vanderbilt University Medical Center
- 2017 – Present Burton Wood, Medical Resident, Vanderbilt University Medical Center
- 2017 – 2019 Courtney Sanders, Undergraduate, Vanderbilt University
- 2018 – 2019 Kimberly Onyekwe, Undergraduate, Vanderbilt University
- 2018 – 2019 Peiton Jarmon, Undergraduate, Vanderbilt University
- 2018 – 2019 Morgan Wiley, Undergraduate, Vanderbilt University
- 2018 – 2019 Abena Green, Undergraduate, Fisk University, Vanderbilt Short Pipeline Partnership Program
- 2018 – 2019 Yeongha Oh, Undergraduate, Berea College, Vanderbilt Short Pipeline Partnership Program

- 2019 – 2019 Brionna Tolbert, Undergraduate, Fisk University, Vanderbilt Short Pipeline Partnership Program
- 2019 – Present Seth Davis, Medical Resident, Vanderbilt University Medical Center

Dissertation Committee Member

- 2019 – 2020 Jaimie Shing, Vanderbilt University
Longitudinal Studies of Evaluation the Implementation and Impact of Human Papillomavirus Vaccination

Masters of Public Health Capstone Committee Member

- 2019 – 2020 Brittany McKinley, University of Kentucky
Topic: Association of Human Papillomavirus Genotype and Smoking with Cervical Cancer Outcomes

RESEARCH PROGRAM

Ongoing Research Support

- 2020 – 2025 R01 DE029650, National Institute for Dental and Craniofacial Research
Krystle A. Lang Kuhs (PI), \$2,635,632.24
HPV16 E6 Antibody Detection as an Early Marker of Oropharyngeal Cancer Among Men Living with HIV. A natural history study to correlate the HPV16 E6 antibody marker with oral HPV infection and undiagnosed oropharyngeal cancer among healthy men living with HIV.
- 2018 – 2022 K07CA218247, National Cancer Institute
Krystle A. Lang Kuhs (PI), \$562,908.66
Human papillomavirus-specific biomarkers for the prediction of oropharyngeal cancer recurrence. A study to evaluate HPV-specific biomarkers for predicting recurrence of oropharyngeal cancer.

Completed Research Support

- 2019 – 2020 Rowan Family Fund
Krystle A. Lang Kuhs (PI), \$50,000
HPV-ENDEAVOR: HPV16 E6 Antibody Detection as an Early Marker of Vanderbilt Oropharyngeal Cancer. A natural history study to correlate the HPV16 E6 antibody marker with undiagnosed oropharyngeal cancer among healthy men.
- 2017 – 2019 Vanderbilt Trans-Institutional Program Grant
Ronald Alvarez (PI), Krystle A. Lang Kuhs (co-I), \$200,000
Addressing the epidemic of HPV-associated cancers (HPV-ACTIVE). A grant to provide supportive infrastructure and educational programs for engaging an interdisciplinary team of investigators and students to lay the groundwork for a consortium focused on HPV-associated cancers.
- 2017 – 2018 K12 Vanderbilt Clinical Oncology Research Career Development Program
Krystle A. Lang Kuhs (PI), 75% Effort, \$105,000.00
Development of new molecular markers for risk stratifying oropharyngeal cancer patients. A study to evaluate HPV-specific biomarkers for predicting recurrence of oropharyngeal cancer.
- 2016 – 2017 Vanderbilt-Ingram Cancer Center, Early Detection and Prevention Initiative

Krystle A. Lang Kuhs (PI), 10% Effort, \$50,000

Human papillomavirus variants and risk of oropharyngeal cancer recurrence. A pilot study to describe HPV16 viral variants in oropharyngeal cancer and to evaluate whether infection with certain HPV16 viral variants increases the risk of oropharyngeal cancer recurrence.

2016 – 2017

American Cancer Society Institutional Research Grant

Krystle A. Lang Kuhs (PI), 10% Effort, \$30,000

Advancing new modalities for the detection of oropharyngeal cancer. A pilot study to evaluate the use of HPV16 E6 antibodies and transcervical ultrasound to detect HPV-driven oropharyngeal cancer.

2015 – 2014

National Cancer Institute Intramural Research Award

Krystle A. Lang Kuhs (PI), \$15,500

Determining the sensitivity of the HPV16 E6 serologic biomarker for the detection of HPV-driven oropharyngeal cancers. A study to determine the sensitivity of HPV16 E6 seropositivity to detect HPV-driven oropharyngeal cancer and to determine the stability of HPV16 antibodies post-treatment.

2008 – 2011

Cancer Research Institute

T32 Predoctoral Emphasis Pathway in Tumor Immunology Training Award

Peer Reviewed Publications

1. Kang DW, Ryu H, Lee J, **Lang KA**, Pavlyukovets VA, Pearce LV, Ikeda T, Lazar J, Blumberg PM. *Halogenations of 4-hydroxy-3-methoxybenzyl thiourea TRPV1 agonists showed enhanced antagonism to capsaicin.* Bioorg Med Chem Lett 2007. 1;17 (1): p.214-9.
2. **Lang KA**, Weiner DB. *Immunotherapy for HCV infection: next steps.* Expert Rev. Vaccines 2008 Sep;7(7):915-23. Review.
3. **Lang KA**, Yan J, Draghia-Akli R, Khan A, Weiner DB, *Strong HCV NS3- and NS4A-specific cellular immune responses induced in mice and Rhesus macaques by a novel HCV genotype 1a/1b consensus DNA vaccine.* Vaccine 2008 Nov 18;26(49):6225-31.
4. Kang DW, Kim YS, Lim KS, Kim MS, Lee J, Pearce LV, Pavlyukovets VA, Tao AK, **Lang Kuhs, KA**, Blumberg PM. *Halogenation of 4-Hydroxy/Amino-3-methoxyphenyl acetamide TRPV1 agonists showed enhanced antagonism to capsaicin.* Bioorg Med Chem. 2010 Nov 15;18(22):8092-105.
5. **Lang Kuhs KA**, Ginsberg AA, Yan J, Wiseman RW, Khan AS, Sardesai NY, O'Connor DH, Weiner DB, *Hepatitis C virus NS3/NS4A DNA vaccine induces multi-epitope T cell responses in Rhesus macaques mimicking human immune responses.* Mol Ther. 2012 Mar, 20(3):669-78. Epub 2011 Sep 27.
6. **Lang Kuhs KA**, Toporovski R, Ginsberg AA, Olsen AL, Shedlock DJ, Morrow MP, Yan J, Wells RG, Weiner DB. *Peripheral immunization induces functional intrahepatic hepatitis C specific immunity following selective retention of vaccine-specific CD8 T cells by the liver.* Hum Vaccin. 2011 Dec;7(12):1326-35. Epub 2011 Dec 1.
7. Bhondwe RS, Kang DW, Kim MS, Kim HS, Park S, Son K, Choi S, **Lang Kuhs KA**, Pavlyukovets VA, Pearce LV, Blumberg PM, Lee J. *Structure activity relationships and molecular modeling of the N-(3-pivaloyloxy-2-benzylpropyl)-N'-[4-(methylsulfonylamino)benzyl] thiourea template for TRPV1 antagonism.* Bioorg Med Chem Lett. 2012 Jun 1;22(11):3656-60. Epub 2012 Apr 13.
8. **Lang Kuhs KA**, Toporovski R, Ginsberg AA, Yan J, Shedlock D, Weiner DB. *Induction of intrahepatic HCV NS4B, NS5A and NS5B-specific cellular immune responses following peripheral immunization.* PLoS One. 2012;7(12):e52165. Epub 2012 Dec 21.
9. **Lang Kuhs KA**, Gonzalez P, Struijk L, Castro F, Hildesheim A, van Doorn LJ, Rodriguez AC, Schiffman M, Quint W, Lowy DR, Porras C, Delvecchio C, Katki HA, Jimenez S, Safaeian M, Schiller J, Solomon D, Wacholder S,

- Herrero R, Kreimer AR; Costa Rica Vaccine Trial Group. *Prevalence of and risk factors for oral human papillomavirus among young women in Costa Rica*. J Infect Dis. 2013 Nov; 208(10):1643-52. Epub 2013 Sep 6.
10. **Lang Kuhs KA**, Gonzalez P, Rodriguez AC, Struijk L, van Doorn LJ, Schiffman M, Chen S, Quint W, Lowy DR, Porras C, DelVecchio C, Katki HA, Jimenez S, Safaeian M, Schiller J, Wacholder S, Herrero R, Hildesheim A and Kreimer AR. *Reduced prevalence of vulvar HPV16/18 infection among women who received the HPV16/18 bivalent vaccine: a nested analysis within the Costa Rica Vaccine Trial*. J Infect Dis. 2014 Dec 15;210(12):1890-9. Epub 2014 June 23.
 11. **Lang Kuhs KA**, Porras C, Schiller J, Rodriguez AC, Schiffman M, Gonzalez P, Wacholder S, Ghosh A, Li Y, Lowy DR, Kreimer AR, Poncelet S, Schussler J, Quint W, van Doorn LJ, Sherman ME, Sidawy M, Herrero R, Hildesheim A and Safaeian M. *Effect of different human papillomavirus serological and DNA criteria on vaccine efficacy estimates*. Am J Epidemiol. 2014 Sept 15;180(6):599-607. Epub 2014 Aug 19.
 12. O'Brien TR, **Lang Kuhs KA**, Pfeiffer RM. *Subgroup differences in response to 8 weeks of Ledipasvir/Sofosbuvir for chronic hepatitis C*. Open Forum Infect Dis. 2014 Dec 13; 1(3).
 13. **Lang Kuhs KA***, Anantharaman D*, Waterboer T, Johansson M, Brennan P, Michel A, Willhauck-Fleckenstein M, Purdue MP, Holcátová I, Ahrens W, Lagiou P, Polesel J, Simonato L, Merletti F, Healy CM, Kjaerheim K, Conway DI, Macfarlane TV, Thomson P, Castellsagué X, Znaor A, Black A, Huang W, Krogh V, Trichopoulou A, Bueno-de-Mesquita HB, Clavel-Chapelon F, Weiderpass E, Ekström J, Riboli E, Tjønneland A, Sánchez M, Travis R, Hildesheim A, Pawlita M and Kreimer AR. *Human papillomavirus antibodies in individuals without diagnosed cancer: a pooled analysis*. Cancer Epidemiol Biomarkers Prev. 2015 Apr;24(4):683-9. Epub 2015 Jan 26.
 14. Kreimer AR, Brennan P, **Lang Kuhs KA**, Waterboer T, Clifford G, Franceschi S, Michel A, Willauck Fleckenstein M, Riboli E, Castellsagué X, Hildesheim A, Turzanski Fortner R, Kaaks R, Palli D, Ljuslinder I, Panico S, Clavel-Chapelon F, Boutron-Ruault MC, Mesrine S, Trichopoulou A, Lagiou P, Trichopoulos D, Peeters PH, Cross A, Bueno-de-Mesquita BH, Vineis P, Larrañaga N, Pala V, Sánchez MJ, Navarro C, Barricarte Gurrea A, Tumino R, Khaw KT, Boeing H, Steffen A, Travis RC, Quirós JR, Weiderpass E, Pawlita M, Johansson M. *Human papillomavirus antibodies and future risk of anogenital cancer: a nested case-control study in the European Prospective Investigation into Cancer and Nutrition (EPIC) study*. J Clin Oncol. 2015 Mar 10;33(8):877-84. Epub 2015 Feb 9.
 15. **Lang Kuhs KA**, Hildesheim A, Kemp T, Trabert B, Purdue M, Wentzensen N, Katki HA, Pinto LA, Chaturvedi AK and Shiels MS. *Association between regular aspirin use and circulating markers of inflammation: a study within the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial*. Cancer Epidemiol Biomarkers Prev. 2015 May; 24(5):825-32. Epub 2015 Feb 23.
 16. O'Brien TR, Pfeiffer RM, Paquin A, **Lang Kuhs KA**, Chen S, Bonkovsky HL, Edlin BR, Howell CD, Kirk G, Kuniholm M, Morgan TR, Pearce CL, Strickler H, Thomas DL and Prokunina-Olsson L. *Comparison of functional variants in IFNL4 and IFNL3 for associations with hepatitis C virus clearance*. J Hepatology. 2015 Nov; 63(5):1103-10. Epub 2015 Jul 15.
 17. **Lang Kuhs KA**, Kuniholm MH, Pfeiffer RM, Chen S, Desai S, Edlin BR, Peters MG, Plankey M, Sharp GB, Strickler HD, Villacres MC, Quinn TC, Gange SJ, Prokunina-Olsson L, Greenblatt RM and O'Brien TR. *Interferon Lambda 4 Genotype is Not Associated with Recurrence of Oral or Genital Herpes*. PloS One. 2015 Oct 2;10(10).
 18. Finnberg NK, Gokare P, Navaraj A, **Lang Kuhs KA**, Cerniglia G, Yagita H, Takeda K, Motoyama N, El-Deiry WS. *Agonists of the TRAIL death receptor DR5 sensitize intestinal stem cells to chemotherapy-induced cell death and trigger gastrointestinal toxicity*. Cancer Res. 2016 Feb 1;76(3):700-12. Epub 2015 Nov 25.
 19. **Lang Kuhs KA**, Pawlita M, Gibson SP, Schmitt NC, Trivedi S, Argiris A, Kreimer AR, Ferris RL and Waterboer T. *Characterization of human papillomavirus antibodies in individuals with head and neck*. Cancer Epidemiol. 2016 Mar 21;42:46-52.
 20. Beachler DC, Waterboer T, Pierce Campbell CM, Ingles DJ, **Lang Kuhs KA**, Nyitray AG, Hildesheim A, Pawlita M, Kreimer A, Giuliano A. *HPV16 E6 seropositivity among cancer-free men with oral, anal or genital HPV16 infection*. Papillomavirus Res. 2016 Dec; 2:141-144.

21. Kreimer AR, Johansson M, Katki H, Hildesheim A, Yanik E, **Lang Kuhs KA**, Chaturvedi A, Purdue M, Yu K, Pinsky P, Zhu C, Michel A, Pawlita M, Brennan P, Waterboer T. *Kinetics of the human papillomavirus type 16 E6 antibody response prior to diagnosis of oropharyngeal cancer*. J Natl Cancer Inst. 2017 Aug 1; 109(8).
22. Beachler DC*, **Lang Kuhs KA***, Gonzalez P, Struijk L, Castro F, Hildesheim A, van Doorn LJ, Rodriguez AC, Schiffman M, Quint W, Lowy DR, Porras C, Delvecchio C, Katki HA, Jimenez S, Safaeian M, Schiller J, Solomon D, Wacholder S, Herrero R, Kreimer AR; Costa Rica Vaccine Trial Group. *Natural history of oral human papillomavirus infection among young Costa Rican women*. Sex Transm Dis. 2017; 44(7):442-9.
23. Van Dyke A*, **Lang Kuhs KA***, Shiels MS, Koshiol J, Trabert B, Loftfield E, Purdue MP, Wentzensen N, Pfeiffer R, Katki HA, Hildesheim A, Kemp T, Pinto LA, Chaturvedi AK, and Safaeian M. *Associations between self-reported diabetes and 78 circulating markers of inflammation among adults in the United States*. PlosOne. 2017 Jul 28; 12(7).
24. **Lang Kuhs KA**, Kreimer AR, Waterboer T, Gibson S, Schmitt N, Trivedi S, Argiris A, Pawlita M and Ferris RL. *Human papillomavirus 16 E6 antibodies are sensitive for human papillomavirus-driven oropharyngeal cancer and are associated with recurrence*. Cancer. 2017 Nov15; 123(22): 4382-90.
25. Lewis J, Shelton J, **Lang Kuhs KA**, Smith D. *p16 Immunohistochemistry in oropharyngeal squamous cell carcinoma using the E6h4 antibody clone - a technical method study for optimal dilution, to head and neck pathology*. Head and Neck Pathology. 2018 Dec;12(4):440-447; Epub2017 Nov 30.
26. **Lang Kuhs KA**, Lin W, Hua X, Shi J, Schiffman M, Burk RD, Rodriguez AC, Herrero R, Abnet C, Freedman N, Pinto L, Hamm D, Robins H, Hildesheim A and Safaeian M. *Association of T cell receptor diversity with cervical intraepithelial neoplasia: a study within the Guanacaste Human Papillomavirus Natural History Study*. Plos One. 2018 Jan 31; 13(1).
27. Mirghani H, **Lang Kuhs KA**, Waterboer T. *Biomarkers for early identification of recurrences in HPV-driven oropharyngeal cancer*. Oral Oncology [Review]. 2018 Jul; 82: 108-114.
28. Campbell B, Netterville J, Sinard R, Mannion K, Rohde S, Langerman A, Kim Y, Lewis J and **Lang Kuhs KA**. *Early onset oral tongue cancer in the United States: a literature review*. Oral Oncology [Review]. 2018 Dec; 87: 1-7.
29. Campbell B, Sanders C, Netterville J, Langerman A, Sinard R, Kim Y, Rohde S, Mannion K, Smith D, Lewis J and **Lang Kuhs KA**. *Early onset oral tongue squamous cell carcinoma: associated factors and patient outcomes*. Head Neck. 2019 June; 4 1(6):1952-1960.
30. Chen Z, Wen W, Bao J, **Kuhs KL**, Cai Q, Long J, Shu XO, Zheng W, Guo X. *Integrative genomic analyses of APOBEC-mutational signature, expression, and germline deletion of APOBEC3 genes and immunogenicity in multiple cancer types*. BMC Med Genomics. 2019 Sep 18; 12(1):131.
31. Faden D, Strober W, Shishido S, Wood B, Lewis JS, **Lang Kuhs KA**, Ferris RL. *Two for the price of one: Prevalence, demographics and treatment implications of multiple HPV mediated Head and Neck Cancers*. Oral Oncology. 2020 Jan;100:104475; Epub 2019 Nov 22
32. **Lang Kuhs KA***, Wood CB*, Wiggleton J, Aulino J, Latimer B, Smith DK, Bender N, Rohde S, Mannion K, Kim Y, Sinard R, Langerman A, Fleischer A, Fakhry C, Waterboer T, Netterville JL. *Transcervical Sonography and Human Papillomavirus 16 E6 Antibodies are Sensitive for Detection of Oropharyngeal Cancer*. Cancer. 2020 Jun 1;126(11):2658-2665; Epub 2020 Mar 4
33. Kreimer A, Chaturvedi A, Alemany L, Anantharaman D, Bray F, Carrington M, Doorbar J, D'Souza A, Fakhry C, Ferris RL, Gillison M, Hayes DN, Hildesheim A, Huang SH, Kowalski L, **Lang Kuhs KA**, Lewis JS, Lowy D, Mehanna H, Ness A, Pawlita M, Pinheiro M, Schiller J, Shiels M, Tota J, Warnakulasuriya S, Waterboer T, Westra W, Chanock S, and Brennan P. *Summary from an international cancer seminar focused on human papillomavirus (HPV)-positive oropharynx cancer, convened by scientists at IARC and NCI*. Oral Oncology. 2020 Sep;108:104736; Epub 2020 Jun 2
34. Liu X, Liu P, Chernock RD, **Lang Kuhs KA**, Lewis JS, Luo J, Gay HA, Thorstad WL, Wang X. *A prognostic gene expression signature for oropharyngeal squamous cell carcinoma*. EBioMedicine. 2020 Nov;61:102805. doi: 10.1016/j.ebiom.2020.102805. Epub 2020 Oct 7.

35. Liu X, Liu P, Chernock RD, **Lang Kuhs KA**, Lewis JS, Gay HA, Thorstad WL, Wang X. *A microRNA expression signature as prognostic marker for oropharyngeal cancer*. J Natl Cancer Inst. 2020 Oct 15;. doi: 10.1093/jnci/djaa161. [Epub ahead of print]
36. Faden DL, Langenbucher A, **Lang Kuhs KA**, Lewis JS, Mirabello L, Lawrence MS, Ferris RL. *HPV+ Oropharyngeal Squamous Cell Carcinomas from patients with two tumors display synchrony of viral genomes yet discordant mutational profiles and signatures*. Carcinogenesis. 2021 Feb 11;42(1):14-20. doi: 10.1093/carcin/bgaa111
37. Campbell B, Zhishan C, Faden D, Agrawal N, Li R, Hanna G, Iyer NG, Boot A, Rozen S, Vettore A, Panda B, Krishan N, Pickering C, Myers J, Guo X**, **Lang Kuhs KA****. *The mutational landscape of early and typical onset oral tongue squamous cell carcinoma*. Cancer. 2021 Feb 15;127(4):544-553. doi: 10.1002/cncr.33309. Epub 2020 Nov 4.
38. Shinn J, Davis SJ, **Lang Kuhs KA**, Rohde S, Wang X, Liu P, Dupont W, Plummer WD, Thorstad WL, Chernock R, Mehrad M, Lewis JS. *Oropharyngeal squamous cell carcinoma with discordant p16 mRNA results – prevalence and characterization in a large, contemporary United States cohort*. Am J Surg Pathol. 2021 Feb 22. doi: 10.1097/PAS.0000000000001685.
39. Lewis JS, Mirabello L, Liu P, Wang X, Dupont W, Plummer D, Mehrad M, O’Boyle C, Faden D, **Lang Kuhs KA**. *Oropharyngeal Squamous Cell Carcinoma Morphology and Subtypes by Human Papillomavirus Type and by 16 Subtype and Sublineages*. Head Neck Pathol 2021 Apr 2. doi: 10.1007/s12105-021-01318-4. Online ahead of print.
40. Koyuncu CF, Lu C, Bera K, Zhang Z, Xu J, Castano P, Corredor G, Chute D, Fu P, Thorstad W, Farhoud F, Bishop JA, Mehrad M, Castro PD, Sikora AG, Thompson LDR, Chernock RD, **Lang Kuhs KA**, Luo J, Sandulache VC, Adelstein DJ, Koyfman S, Lewis JS, Madabhushai A. *Computerized tumor multinucleation index (MuNI) is prognostic in p16+ oropharyngeal carcinoma: A multi-site validation study*. J Clin Invest 2021 Mar 2;145488. doi: 10.1172/JCI145488. Online ahead of print.
41. **Lang Kuhs KA**, Faden D, Smith DK, Pinheiro M, Wood BC, Davis S, Yeager M, Boland JF, Cullen M, Steinberg M, Bass S, Wang X, Liu P, Mehrad M, Lewis JS, Ferris R, Mirabello L. *Genetic variation with the human papillomavirus type 16 genome is associated with oropharyngeal cancer prognosis*. (Submitted)
42. Liu X, Liu P, Chernock R, **Lang Kuhs KA**, Lewis J, Li H, Gay H, Thorstad W, and Wang X. *Impact of Human Papillomavirus on the Tumor Microenvironment in Oropharyngeal Squamous Cell Carcinoma*. (Submitted)
*Co-first authors; **Co-last authors

Book Chapters

1. Nassiri A, **Lang Kuhs KA**, Langerman A. *Carcinoma of the Lateral Pharynx and Soft Palate*. In Genden E. Head and Neck Cancer – Principles of Management and Reconstruction. 2nd Ed. New York: Thieme 2017.
2. Murphy BA, Mannion K, **Lang Kuhs KA**, Castellanos E, Twork G, Neirmann K. *Evaluation and Management of Head and Neck Cancer*. In Cancer Rehabilitation: Principles and Practice. 2nd Ed. Springer Publishing Company 2018.

Selected Abstracts

- | | |
|------|---|
| 2009 | Lang KA , Yan J, Draghia-Akli R, Khan A, Weiner DB, <i>Strong HCV NS3- and NS4A-specific cellular immune responses induced in mice and Rhesus macaques by a novel HCV genotype 1a/1b consensus DNA vaccine</i> . Poster Presented at: Cancer Research Institute Symposium, New York, New York. |
| 2009 | Lang KA , Yan J, Draghia-Akli R, Khan A, Weiner DB, <i>Strong HCV NS3- and NS4A-specific cellular immune responses induced in mice and Rhesus macaques by a novel HCV genotype 1a/1b consensus DNA vaccine</i> . Poster Presented at: University of Pennsylvania Pharmacology Symposium, Philadelphia, Pennsylvania. |
| 2010 | Lang Kuhs KA , Toporovski R, Ginsberg AA, Yan J, Shedlock D, Olsen AL, Wells R, Morrow MP, Weiner DB, <i>Development of a small animal model of hepatitis C virus infection to investigate vaccine-specific</i> |

T cell trafficking to the liver. Poster presented at: Cancer Research Institute and National Cancer Institute Joint Pre-doctoral Fellowship Research Symposium, Philadelphia, Pennsylvania.

- 2010 **Lang Kuhs KA**, Toporovski R, Ginsberg AA, Yan J, Shedlock D, Olsen AL, Wells R, Morrow MP, Weiner DB, *Development of a small animal model of hepatitis C virus infection to investigate vaccine-specific T cell trafficking to the liver.* Poster presented at: Cancer Research Institute Symposium, New York, New York.
- 2012 **Lang Kuhs KA**, Gonzalez P, Quint W, Hildesheim A, van Doorn L, Rodriguez AC, Schiffman M, Struijk L, Lowy DR, Porras C, Katki HA, Jimenez S, Schiller J, Solomon D, Wacholder S, Herrero R and Kreimer AR for the Costa Rica Vaccine Trial Group. *Prevalence of and risk factors for oral human papillomavirus infection among young healthy women in Costa Rica.* Poster presented at: 28th International Papillomavirus Conference, San Juan, Puerto Rico.
- 2015 **Lang Kuhs KA**, Kreimer AR, Gibson S, Trivedi S, Pawlita M, Waterboer T, Ferris RL. *Characterization of human papillomavirus antibodies and inflammatory immune markers in individuals with head and neck cancer.* Poster Presentation: American Head and Neck Society Annual Meeting, Boston, Massachusetts.
- 2015 **Lang Kuhs KA**, Lin S, Hua X, Schiffman M, Rodriguez AC, Herrero R, Abnet C, Freedman N, Pinto L, Hamm H, Robins H, Hildesheim A, Shi J, Safaeian M. *T cell receptor diversity and persistent human papillomavirus 16 infection.* Poster Presentation: American Society of Preventive Oncology Annual Meeting, Birmingham, Alabama.
- 2018 Wood CB, Rohde S, Mannion K, Kim Y, Sinard S, Langerman A, Aulino J, Fleischer A, Smith DK, Fakhry C, Netterville J, **Lang Kuhs KA**. *Use of Transcervical Ultrasound for Identification of Primary Site in Patients With Oropharyngeal Cancer.* Oral Presentation by CB Wood: American Head and Neck Society, National Harbor, Maryland.
- 2020 **Lang Kuhs KA**, Wood CB, Wiggleton J, Aulino J, Latimer B, Smith DK, Bender N, Rohde S, Mannion K, Kim K, Sinard R, Langerman A, Fleischer A, Fakhry C, Waterboer T, Netterville JL. *Ultrasound and Human Papillomavirus (HPV) 16 E6 Antibodies are Sensitive for Detection of Oropharyngeal Cancer.* Poster Presentation: 33rd International Papillomavirus Conference, Barcelona, Spain (*Planned*). To be presented virtually due to COVID-19.

Oral Presentations (Internal)

- 2009 *Strong HCV NS3- and NS4A-specific cellular immune responses induced in mice and Rhesus Macaques by a novel HCV genotype 1a/1b consensus DNA vaccine.* University of Pennsylvania Pharmacology Symposium, Philadelphia, Pennsylvania.
- 2010 *Development of a small animal model of hepatitis C Virus infection to investigate vaccine-specific T cell trafficking to the liver.* Cancer Research Institute and National Cancer Institute Joint Pre-doctoral Research Symposium, Philadelphia, Pennsylvania.
- 2014 *Association between regular aspirin use and circulating markers of inflammation.* Inflammation Interest Group, NCI Division of Cancer Epidemiology and Genetics, Bethesda, Maryland.
- 2015 *Sensitivity of the HPV16 E6 serologic biomarker for the detection of HPV-driven oropharyngeal cancer.* NCI Division of Cancer Epidemiology and Genetics Seminar Series, Bethesda, Maryland.
- 2016 *Personalized medicine for the prevention and treatment of HPV-driven oropharyngeal cancer.* Vanderbilt-Ingram Cancer Center Research Program Leaders Meeting, Nashville, Tennessee.

- 2016 *Toward preventing head and neck cancer.* Vanderbilt-Ingram Cancer Center Board of Overseers, Nashville, Tennessee.
- 2017 *Biomarkers for the early detection and precision treatment of HPV-driven oropharyngeal cancer.* Vanderbilt-Ingram Cancer Center Symposium for the Acting NCI Director, Doug Lowy, PhD; Panel Discussion on Prevention and Early Detection, Nashville, Tennessee.
- 2017 *Human papillomavirus variants and risk of oropharyngeal cancer recurrence.* Vanderbilt-Ingram Cancer Center Early Detection and Prevention Initiative, Nashville, Tennessee
- 2017 *Discovering novel biomarkers for the early detection and precision treatment of oropharyngeal cancer.* Vanderbilt University Medical Center Division of Epidemiology Grand Rounds, Nashville, Tennessee.
- 2017 *Hacking the clinical research infrastructure for biomarker discovery in head and neck cancer.* K12 Vanderbilt Clinical Oncology Research Career Development Program Retreat, Smithville, Tennessee.
- 2018 *Epidemic of HPV-associated Head and Neck Cancer.* As part of “Updates on HPV-associated Head & Neck Cancer” hosted by Vanderbilt University Medical Center, Department of Otolaryngology, Head and Neck Surgery, Nashville, Tennessee.
- 2018 *The Importance of Teamwork in Advancing Head and Neck Cancer Research.* Vanderbilt University Department of Otolaryngology Grand Rounds, Nashville, Tennessee.
- 2018 *Advancing new modalities for the detection of oropharyngeal cancer.* American Cancer Society Research Symposium, *Partners in Progress*, Nashville, Tennessee.
- 2018 *Can we identify HPV-driven oropharyngeal cancer earlier?* Vanderbilt Translational Research Forum, Nashville, Tennessee.
- 2019 *Innovative Approaches to Screening for Oropharyngeal Cancer.* HPV-ACTIVE Symposium, Vanderbilt University Medical Center, Nashville, Tennessee.
- 2019 *Research Program Summary.* Hematology/Oncology Fellows Research Forum, Vanderbilt University Medical Center, Nashville, Tennessee.
- 2020 *Biomarker discovery in HPV-driven oropharyngeal cancer.* Vanderbilt University Medical Center Division of Epidemiology Grand Rounds, Nashville, Tennessee.

Oral Presentations (External)

- 2014 *Reduced prevalence of vulvar HPV16/18 infection among women who received the HPV16/18 bivalent vaccine: a nested analysis within the Costa Rica Vaccine Trial.* 29th International Papillomavirus Conference, Seattle, Washington.
- 2015 *Human papillomavirus type 16 E6 antibodies as an early marker of HPV-driven cancer.* New Investigators Workshop, 39th Annual American Society of Preventive Oncology Conference, Birmingham, Alabama.
- 2015 *Insights into the prevention of virus-driven cancers.* Department of Epidemiology and Biostatistics, Memorial Sloan Kettering Cancer Center, New York, New York.
- 2017 *The sensitivity and specificity of HPV serology to detect undiagnosed HPV-driven OPC: A pilot study.* Cape Town, South Africa.

- 2017 *HPV16 E6 antibodies are highly sensitive for HPV-driven oropharyngeal cancer and are associated with risk of recurrence.* 31st International Papillomavirus Conference, Cape Town, South Africa.
- 2017 *Advancing new modalities for the early detection of oropharyngeal cancer.* Tennessee Cancer Consortium's 2017 Cancer Conference, *Think About the Link*, Nashville, Tennessee.
- 2017 *Using HPV serology for predicting recurrence – summary of available evidence.* EUROGIN 2017 International Multidisciplinary HPV Congress, Amsterdam, Netherlands.
- 2017 *Our boys need the HPV vaccine too!: An overview of HPV & Oral Cancer.* *Think About the Link*[®] and *Dialogue for Action*[®] HPV Education Webinar.
- 2018 *The promise of biomarkers for the early detection of HPV-driven oropharyngeal cancer.* University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania.
- 2019 *Leveraging the clinical infrastructure for biomarker discovery in HPV research.* University of Alabama at Birmingham, Department of Epidemiology, Birmingham, Alabama.
- 2019 *HPV antibodies and risk of recurrence.* EUROGIN 2019 International Multidisciplinary HPV Congress, Monaco, Monaco.
- 2020 *Biomarker discovery for the early detection and precision treatment of HPV-driven oropharyngeal cancer.* Markey Cancer Center, University of Kentucky, Lexington, Kentucky.
- 2020 *Developing and establishing your own niche in research (Panelist).* National Cancer Institute, Division of Cancer Epidemiology and Genetics, Fellows' Colloquium, Bethesda, Maryland.
- 2021 *Is early detection for HPV-driven oropharyngeal cancer possible?* Appalachian Regional Healthcare, Inc., Internal Medicine Residency Symposium, Harlan, Kentucky.
- 2021 *A multi-institutional study to assess prevalence of HPV16 E6 antibodies in screening of human papillomavirus-driven oropharyngeal cancer (HPV-OPC)* Appalachian Regional Healthcare, Inc., Internal Medicine Residency Symposium, Harlan, Kentucky.