

# Mark E. Whipple, M.D., Sc.M., F.A.C.S.

## Date of CV

6/1/2018

## Personal Data

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### Date of birth:

May 3, 1965

### Place of birth:

Seattle, WA

## Education

1983-1986	<b>Stanford University</b> Bachelor of Science with Distinction	Palo Alto, CA
1987-1991	<b>University of Washington School of Medicine</b> Doctor of Medicine with Honors	Seattle, WA
2000-2001	<b>Massachusetts Institute of Technology - Harvard University</b> Division of Health Science and Technology Master of Science in Medical Informatics	Cambridge, MA

## Postgraduate Training

1991-1992	<b>University of Illinois College of Physicians</b> Internship in General Surgery	Chicago, IL
1992-1996	<b>University of Illinois College of Physicians</b> Residency in Otolaryngology - Head and Neck Surgery	Chicago, IL
2000-2001	<b>Harvard Medical School - Children's Hospital</b> Children's Hospital Informatics Program Postdoctoral Fellowship in Bioinformatics	Boston, MA
2006-2007	<b>University of Washington School of Medicine</b> Teaching Scholars Fellowship Program Certificate in Medical Education	Seattle, WA

## Faculty Positions Held

2002-2003	<b>Biocommons Computing Center</b> Co-director of facility for bioinformatics research, education and support for the University of Washington	Seattle, WA
2001-2003	<b>University of Washington School of Medicine</b> Acting Assistant Professor of Otolaryngology-Head & Neck Surgery	Seattle, WA
2003-2008	<b>University of Washington School of Medicine</b> Assistant Professor of Otolaryngology-Head & Neck Surgery	Seattle, WA

2008-present Associate Professor of Otolaryngology-Head & Neck Surgery  
 2011-2012 Adjunct Associate Professor of Biomedical Informatics and Medical Education  
 2012-present Associate Professor of Biomedical Informatics and Medical Education  
 2006-2009 Residency Program Director, Dept. of Otolaryngology-Head & Neck Surgery  
 2009-2011 Associate Program Director, Dept. of Otolaryngology-Head & Neck Surgery  
 2002-present UW School of Medicine College Faculty  
 2009-2015 Head, Big Sky College, UW School of Medicine Colleges  
 2013-2015 UW Medicine Epic Enterprise Specialty Implementation, Physician Adoption Lead  
 2014-2015 Advisor to the UWSOM Associate Dean of Curriculum  
 2015-present Assistant Dean for Curriculum, UW School of Medicine

### **Hospital and Affiliated Positions Held**

	<b>Fairbanks Memorial Hospital, Ear, Nose &amp; Throat Clinic</b>	Fairbanks, AK
1996-2000	Attending Physician in a single specialty private practice group	
	<b>Children's Hospital</b>	Boston, MA
2001	Research Fellow	
	<b>University of Washington Medical Center</b>	Seattle, WA
2001-2007	Attending Physician in Otolaryngology-Head & Neck Surgery	
	<b>Harborview Medical Center</b>	Seattle, WA
2001-present	Attending Physician in Otolaryngology-Head & Neck Surgery	
2007-2010	Acting Chief of Otolaryngology-Head & Neck Surgery	
2010-2016	Chief of Otolaryngology-Head & Neck Surgery	

### **Honors and Awards**

1982 National Merit Scholar  
 1990 Alpha Omega Alpha  
 1995 Chicago Laryngologic and Otologic Society,  
 Lederer-Pierce Resident Research Competition - 1st Prize  
 2002 UW Dept. of Otolaryngology-Head and Neck Surgery Trachey Award:  
 Faculty member that contributes most to resident research  
 2007 University of Washington School of Medicine Service Excellence Award  
 2009 American Academy of Otolaryngology-Head and Neck Surgery Honor Award  
 2009 Harborview CARES Award for Service Excellence

### **Board Certification**

1992 National Board of Medical Examiners  
 1997 American Board of Otolaryngology

### **Current Licenses**

2001-present State of Washington Medical License

### **Professional Societies**

1997-present American Academy of Otolaryngology - Head & Neck Surgery, Fellow  
 2000-present American Medical Informatics Association, member  
 2006-present Association for Surgical Education, member  
 2009-present American College of Surgeons, Fellow  
 2012-present Learning Communities Institute, member

### **Special National Responsibilities**

2005-2010	American Academy of Otolaryngology-Head and Neck Surgery Medical Informatics Committee, member
2010-present	Learning Communities Institute Leadership Council, member
2012-present	Learning Communities Institute Executive Committee, member
2012-2016	Learning Communities Institute, Treasurer
2012-2016	Learning Communities Institute Financial Committee, Chair
2017-present	Learning Communities Institute Financial Committee, member
2016	Learning Communities Institute Annual Meeting co-Chair
2017	Learning Communities Institute, Chair-elect
2018	Learning Communities Institute, Chair

### **Special Local Responsibilities**

2003-2007	UWMC ORCA (Online Record for Clinical Activity) Physicians Advisory Committee, member
2003-2005	UWSOM Oral and Systemic Health Theme Committee, member
2006-2009	UW Dept of Oto/HNS Residency Education Committee, Chair
2009-2016	UW Dept of Oto/HNS Residency Education Committee, member
2007-2016	HMC Medical Executive Board, member
2007-2016	HMC Ambulatory Care Council, member
2007-2016	HMC Surgical Council, member
2007-2016	HMC Trauma Council, member
2008-2011	UW Institutional Resident/Fellow Advisory Committee, member
2010-2016	UW Sleep Institute Oversight Committee, member
2010-2011	UW Medicine Duty Hours Task Force, member
2010-2011	UW Medical Education and Biomedical Informatics Advisory Committee, member
2010-2011	UW School of Medicine Pre-Curriculum Review Committee, member
2010-2011	UW Vice-Dean of Academic Affairs Search Committee, member
2011	UW Second Year Curriculum Expansion Committee, Chair
2011	UW Chair of Family Medicine Search Committee, member
2011	UW Telehealth Task Force, member
2011	UW Telehealth Education Subcommittee, member
2011-2012	UW Tracking Student Concerns committee, member
2011-2012	UW Physician Re-Entry Task Force, member
2012	UW School of Medicine Director of Career Advising Search Committee, member
2012	UW Chair of Biomedical Informatics and Medical Education Search Committee, member
2012	UWSOM Vice Dean of Student Affairs Search Committee, member
2012-2014	WWAMI Strategic Communications Committee, member
2012-2014	UWSOM Curriculum Oversight Committee, Colleges representative
2012-2014	UWSOM Curriculum Renewal Steering Committee, co-Chair
2013-2014	UWSOM Patient Care Phase Development Committee, co-Chair
2013-2016	UW Dept. of Oto/HNS Clinical Competency Committee, member
2014	UW School of Medicine/School of Dentistry Curriculum Integration Task Force, member
2014-2015	UWSOM Curriculum Committee, Academic co-Chair
2015-present	UWSOM Curriculum Committee, member
2014-2016	UWSOM Faculty Council on Academic Affairs, member
2015	Precision Medicine Faculty search committee, member
2015-present	UWSOM Medical School Executive Committee, member
2016	UW Dept. of Oto/HNS Laryngology Faculty search committee, member
2016-present	UWSOM Patient Care Phase Committee, Executive co-Chair

2016-present UWSOM Explore and Focus Phase Committee, Executive co-Chair  
2016-present UWSOM Scholarship Sub-Committee, Chair  
2016-present UWSOM Learning Environment Committee, co-Chair  
2016-present UWSOM Incident Review and Oversight Committee, member  
2017-present UWSOM Educational Quality Improvement/Strategic Planning Committee, member

### **Teaching Responsibilities**

Co-director of BioCommons Computing Center, 2003-4

Provide education and training in bioinformatics theory and software for the University of Washington research community.

College faculty for UW School of Medicine. 2002-present

Responsibilities include, for first to fourth year medical students:

- Teaching and monitoring clinical skills development, professionalism and ethics,
- Academic and career counseling and mentoring,
- Integrating core clinical skills, professionalism topics and ethics into both preclinical and clinical rotations,
- Development and administration of the observed structured clinical skills examinations (OSCEs) and the fourth-year Capstone course.
- Instructor for the second year medical school Introduction to Clinical Medicine II courses.

Head, Big Sky College, 2009-2015

Responsibilities include:

- General administration of the Colleges including the vertical clinical curriculum
- Big Sky College administration including oversight of student and faculty performance and faculty development
- Liaison to the students, faculty and state legislature at the Montana WWAMI site
- Further the work of the Colleges by presenting the Colleges regionally and nationally, facilitating scholarly work, identifying resources to support the Colleges

Core faculty instructor

HuBio 542, 550, 560: Introduction to Clinical Medicine II, 2002-2016

Responsibilities include teaching a year-long course of clinical skills, professionalism and ethics to a small group of 6 second year medical students in a bed-side setting, one morning each week throughout the academic year. Clinical skills include advanced physical exam techniques, communication skills, oral case presentations, written documentation and clinical reasoning.

Foundations of Clinical Medicine, 2015-present

FCM is an 18 month course that spans the entire Foundations phase of the curriculum and takes the place of the previous ICM I and II. Responsibilities include a half-day a week of bedside teaching with a small group in the inpatient setting focused on history taking, physical examination, oral case presentation, written documentation, and clinical reasoning, and a half-day a week of small group sessions focused on the development of clinical skills, communication and professional identity.

Course director

BIME 591C: Cancer, Stochastic Models and Mathematical Biology, 2014-5

Lecturer

HuBio 353P: Introduction to Clinical Medicine I, 2002-2015

CONJ 516: Oral Health elective, lecturer, 2005-6  
Capstone Course for fourth year medical students, 2004-present  
Immersion Course for entering medical students, 2015-present

#### Examiner

Observed Structured Clinical Examinations for 2<sup>nd</sup> year medical students, 2003-present

Director, UW Dept. of Otolaryngology-Head and Neck Surgery Resident Education Curriculum, 2003-2011

Responsibilities include developing an integrated curriculum incorporating key areas of medical knowledge in otolaryngology-head and neck surgery and the ACGME core competencies for residency training.

#### Educational Committees

UWSOM Colleges Informatics Working Group, co-chair, 2002-2010  
UWSOM Colleges Physical Examination Working Group, member, 2003-2010  
UWSOM Colleges Mentoring and Career Counseling Working Group, member, 2010-2013  
UWSOM Colleges Scholarship and Evaluation Working Group, member, 2010-2016  
UWSOM Oral and Systemic Health Theme Committee, member, 2003-2005  
UW Dept of Oto/HNS Residency Education Committee, Chair, 2006-2009  
UW Dept of Oto/HNS Residency Education Committee, member, 2009-2016  
UW Institutional Resident/Fellow Advisory Committee, member, 2008-2011  
UW Medicine Duty Hours Task Force, member, 2010-2011  
UW School of Medicine Pre-Curriculum Review Committee, member, 2010-2011  
UW Second Year Curriculum Expansion Committee, Chair, 2011  
UW Tracking Student Concerns committee, member, 2011-2012  
UWSOM Curriculum Oversight Committee, Colleges representative, 2012-2014  
UWSOM Curriculum Renewal Steering Committee, co-Chair, 2012-2014  
UWSOM Patient Care Phase Development Committee, co-Chair, 2013-2014  
UW Dept of Oto/HNS Clinical Competency Committee, member, 2013-2016  
UWSOM/UW School of Dentistry Curriculum Integration Task Force, member, 2014  
UWSOM Curriculum Committee, Academic co-Chair, 2014-2015  
UWSOM Curriculum Committee, member, 2015-present  
UWSOM Faculty Council on Academic Affairs, member, 2014-2016  
UWSOM Patient Care Phase Committee, Executive co-Chair, 2016-present  
UWSOM Explore and Focus Phase Committee, Executive co-Chair, 2016-present  
UWSOM Scholarship Sub-Committee, Chair, 2016-present  
UWSOM Learning Environment Committee, co-Chair, 2016-present  
Learning Communities Institute Leadership Council, member, 2010-present  
Learning Communities Institute Executive Committee, member, 2012-present  
UWSOM Educational Quality Improvement - Strategic Planning Committee, member, 2017-present

#### **Mentoring Responsibilities**

University of Washington Medical Students

Serving as formal primary mentor throughout the four-year medical school curriculum. This includes teaching clinical skills as part of the Foundations of Clinical Medicine course, as well as teaching professionalism and ethics and providing mentoring and career counseling.

Courtenay Barlow, MD	2002-2005	Brianne Draney, MD	2002-2005
Anneliese Floyd, MD	2002-2005	Ken James, MD	2002-2005

Christine O'Conner, MD	2002-2005	Richard Smith, MD	2002-2006
Anita Afzali, MD	2002-2006	Tobe Harbard, MD	2002-2006
Jody Hunt, MD	2002-2006	Rebecca Mallo, MD	2002-2006
James Ronald, MD, PhD	2002-2009	David Spencer, MD, PhD	2002-2010
Maegan Ashworth, MD, PhD	2003-2013	Douglas Dightman, MD	2003-2007
Luke Grauke, MD	2003-2007	Alison Madsen, MD	2003-2007
Renee Umbdenstock, MD	2003-2007	Sudershan Singh, MD	2003-2008
Jennifer Gibson, MD	2004-2009	Gregory Haveman, MD	2004-2008
Corey Holly	2004-2007	Marie Holzapfel, MD	2004-2008
Aaron Kusano, MD, MPH	2004-2010	Monique Mayo, MD	2004-2008
Andrea Christopher, MD	2005-2009	Caroline Lynch, MD	2005-2009
Christina Marchion, MD	2005-2010	David Nickerson, MD	2005-2010
Grace Marx, MD, MPH	2005-2010	Dick Hwang, MD, PhD	2005-2008
Ern Loh, MD, PhD	2005-2008	Wonsuk Kim, MD	2005-2009
Amy Van deWilde, MD	2006-2010	Steve Oh	2006-2010
Elise Pletnikov, MD	2006-2010	Yekaterina Batilova, MD	2006-2011
Laura Bovee, MD	2007-2012	Elizabeth Hankinson, MD	2007-2011
Lindsay Hoffman, MD	2007-2011	Joseph Bavaro, MD	2007-2011
Brian Buckingham	2007-2010	Zachary DeBoard, MD	2007-2011
Eric Alcid, MD, PhD	2008-2017	Amy Cheney, MD	2008-2012
Benjamin Davis, MD	2008-2012	Kelly Haisley, MD	2008-2012
Jeannie Nguyen, MD, MPH	2008-2013	Renna Short, MD	2008-2012
Delaney Conway, MD	2009-2013	Corinne Shubin, MD	2009-2013
Sonya Tat, MD	2009-2013	Colin Teteak	2009-2017
Ryan Wallace, MD, MPH	2009-2014	Jennifer Wilkinson, MD	2009-2013
Lauren Campbell, MD, MPH	2010-2015	Thomas Gallagher, MD	2010-2015
Genesis Han, MD	2010-2014	Kristine Tan, MD	2010-2014
Nicholas Welter, MD	2010-2015	Bryan Wilson, MD	2010-2014
Meghan Combs, MD	2011-2015	Xiaohua Feng, MD	2011-2015
Jessica Horras, MD	2011-2015	Michael Keating, MD	2011-2015
Adam Nishimura, MD, MS	2011-2016	Natalie Vandeven, PhD	2011-present
Travis Marshall, MD	2012-2016	Samantha Moen, MD	2012-2016
Mark Schaefer, MD	2012-2016	Martina Tam, MD	2012-2017
Matthew Peters, MD	2013-2017	Cameron Scranton, MD	2013-2017
Whitney Wright, MD	2013-2017	Elizabeth Auld, MD	2013-2017
Samuel Sussman, MD	2013-2017	Mathini Mohanachandran, MD	2013-2017
Adinda Demske	2014-present	Joshua Frankland	2014-present
Rachel Nakanishi	2014-present	McHale Anderson	2014-present
Tara Will	2014-present	Michael Shapiro	2014-present
Amelia Gallaher	2015-present	David Olsen	2015-present
Nicholas Popp	2015-present	Cara Saxon	2015-present
Miao Yu	2015-present	Elizabeth Chang	2016-present
Jacob Hornbuckle	2016-present	Joshua Monson	2016-present
Amanda Seely	2016-present	Hailey Theeuwen	2016-present
Kevin Chung	2017-present	Elizabeth Esselman	2017-present
Sairan Ghafur	2017-present	Tyler Hill	2017-present
Alyssa Noll	2017-present		

#### Otolaryngology-Head and Neck Surgery Residents

Amit Bhrany, MD	2003-2007
Elizabeth Hahn, MD	2014-2017
Grace Wandell, MD	2017-present

## Research Advisor

Courtenay Barlow, MD (as MD student)	2002-2005
Zachary DeBoard, MD (as MD student)	2008-2010
Hyunggu Jung, MS, PhD (as Biomedical informatics PhD student)	2014-2017
Anthony Law, MD, PhD (as Oto-HNS resident/T32 fellow)	2015-present
Shuyang Wu, MS (as Biomedical Informatics MS student)	2015-2017
Elizabeth Wick, MD (as Oto/HNS resident/T32 fellow)	2016-2017
Melissa Clarkson, PhD (as Biomedical informatics post-doctoral fellow)	2016-2017
Rajeev Saxena, MD, MBA (as Oto-HNS resident/T32 fellow)	2017-present
Qiushui Zhang (as Biomedical Informatics MS student)	2018-present

## Research Funding

2015-2016	Principal Investigator R21 LM012075 “Meta-modeling methods for biological processes” NLM Total Award Amount: \$408,414
2014-2015	Co-Principal Investigator R21 LM012075 “Meta-modeling methods for biological processes” NLM PI: Ira Kalet, PhD
2006-2009	Subcontract, 5% FTE R01 DE016809 “Transmission and Acquisition of KSHV” NIDCR PI: Jeff Vieira, PhD
2003-5	Co-Principal Investigator Virginia Merrill Bloedel Research Mini-Grant “Genomics of Vestibular Schwannoma” PI: Robert Rostomily, MD
2002-3	Co-Principal Investigator UW Tools for Transformation Grant “The BioCommons Computing Center: Shared Bioinformatics Research Tools and Support Services” PI: Roger Bumgarner, PhD
2001	Post-doctoral Training Grant U01 HL066582-01 "Genomics of Cardiovascular Development, Adaptation, and Remodeling" – NHLBI PI: Seigo Izumo, MD

## **Bibliography**

### **Manuscripts in Refereed Journals**

1. Kumar A, Mafee M, Dobben G, **Whipple ME**, Pieri A. Diagnosis of vertebrobasilar insufficiency: time to rethink established dogma? *Ear Nose Throat J.* 1998 Dec;77(12):966-9,972-4. PMID: 9879136
2. **Whipple ME**, Kuo WP. DNA microarrays in otolaryngology-head and neck surgery. *Otolaryngol Head Neck Surg.* 2002 Sep;127(3):196-204. PMID: 12297810
3. Kuo WP, **Whipple ME**, Sonis ST, Ohno-Machado L, Jenssen TK. Gene expression profiling by DNA microarrays and its application to dental research. *Oral Oncol.* 2002 Oct;38(7):650-6. PMID: 12353490
4. Kalet IJ, **Whipple M**, Pessah S, Barker J, Austin-Seymour MM, Shapiro LG. A rule based model for local and regional tumor spread. *Proc AMIA Symp.* 2002: 360-4. PMID: 12463847
5. Teng CC, Austin-Seymour MM, Barker J, Kalet IJ, Shapiro LG, **Whipple M**. Head and neck lymph node region delineation with 3-D CT image registration. *Proc AMIA Symp.* 2002: 767-71. PMID: 12463928
6. Kuo WP, **Whipple ME**, Jenssen TK, Todd R, Epstein JB, Ohno-Machado L, Sonis ST, Park PJ. Microarrays and clinical dentistry. *J Am Dent Assoc.* 2003 Apr;134(4):456-62. PMID: 1273379
7. Kuo WP, Mendez E, Chen C, **Whipple ME**, Farwell DG, Agoff N, Park PJ. Functional relationship between gene pairs in oral squamous cell carcinoma. *Proc AMIA Symp.* 2003; 371-5. PMID: 14728197
8. Kuo WP, **Whipple ME**, Epstein JB, Jenssen TK, Santos GS, Ohno-Machado L, Sonis ST. Deciphering gene expression profiles generated from DNA microarrays and their applications in oral medicine. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2004 May;97(5):584-91. PMID: 15153870
9. Lee S, **Whipple M**. Metastatic renal cell carcinoma to the nasal cavity. *Am J Otolaryngol.* 2004 Jul-Aug;25(4):255-7. PMID: 15239032
10. **Whipple ME**, Mendez E, Farwell DG, Agoff SN, Chen C. A genomic predictor of oral squamous cell carcinoma. *Laryngoscope.* 2004 Aug;114(8):1346-54. PMID: 15280706
11. **Whipple ME**, Mendez E, Farwell DG, Chen C. A log likelihood predictor for genomic classification of oral cancer using principal component analysis for feature selection. *Stud Health Technol Inform;*2004: 823-8. PMID: 15360927
12. Lee S, Maronian N, Most SP, **Whipple ME**, McCulloch TM, Stanley RB, Farwell DG. Porous high-density polyethylene for orbital reconstruction. *Arch Otolaryngol Head Neck Surg* 2005; 131: 446-450. PMID: 15897425
13. Kuo WP, Liu F, Trimarchi J, Punzo C, Lombardi M, Sarang J, **Whipple ME**, Maysuria M, Serikawa Lee KSY, McCrann D, Kang J, Shearstone JR, Burke J, Park DJ, Wang X, Ricciardi-Castagnoli P, Perrin S, Choi S, Bumgarner R, Kim JH, Short III GF, Freeman MW, Seed B, Jensen R, Church GM, Hovig E, Cepko CL, Park P, Ohno-Machado L, Jenssen TK. A



sequence oriented comparison of gene expression measurements across different hybridization-based technologies. *Nat Biotechnol.* 2006 Jul;24(7):832-40. PMID: 16823376

14. **Whipple ME**, Barlow CB, Smith S, Goldstein EA. Early introduction of clinical skills improves medical student comfort at the start of third year clerkships. *Acad Med.* 2006 Oct;81(10 Suppl):S40-3. PMID: 17001132
15. Benson N, **Whipple M**, Kalet IJ. A markov model approach to predicting regional tumor spread in the lymphatic system of the head and neck. *AMIA Annu Symp Proc.* 2006:31-5. PMID: 17238297
16. Kubo M, McCulloch TM, **Whipple M**, Cohen W, Anzai Y, Raske M, Kim P. A reclassification of temporal bone fractures and its association with facial nerve injury. *J Investig Med* 2006 54;Suppl 1(205).
17. Mendez E, Fan W, Choi P, Agoff SN, **Whipple M**, Farwell DG, Futran N, Weymuller EA, Zhao LP, Chen C. Tumor-specific genetic expression profiles of metastatic oral squamous cell carcinoma. *Head Neck.* 2007 Sep;29(9):803-14. PMID: 17573689
18. Cheng AG, Deubner H, **Whipple ME**. Melanoacanthoma of the external auditory canal: a case report and review of the literature. *Am J Otolaryngol.* 2007 Nov-Dec;28(6):433-5. PMID: 17980780
19. Hasina R, **Whipple ME**, Martin LE, Kuo WP, Ohno-Machado L, Lingen MW. Angiogenic heterogeneity in head and neck squamous cell carcinoma: biological and therapeutic implications. *Lab Invest.* 2008 Apr;88(4):342-53. PMID: 18283272
20. Kalet IJ, Mejino JL, Wang V, **Whipple M**, Brinkley JF. Content-specific auditing of a large scale anatomy ontology. *J Biomed Inform.* 2009 Jun;42(3):540-9. PMID: 19248842
21. Seifi A, Weaver EM, **Whipple ME**, Ikoma M, Feffenberg JM, Huang ML, Vieira J. The lytic activation of KSHV during keratinocyte differentiation is dependent upon a suprabasal position, the loss of integrin engagement, and calcium, but not the interaction of cadherins. *Virology.* 2011 Feb 5;410(1):17-29. PMID: 21084105
22. Wang LL, Grunblatt E, Jung H, Kalet IJ, **Whipple ME**. Biological model development as an opportunity to provide content auditing for the Foundational Model of Anatomy ontology. *AMIA Annu Symp Proc.* 2015 Nov 5;2015:2111-20. PMID: 26958311
23. Strub GM, Kirsh AL, **Whipple ME**, Kuo WP, Keller RB, Kapur RP, Perkins JA, Majesky MW, Perkins JA. Endothelial and circulating C19MC microRNAs are biomarkers of infantile hemangioma. *JCI Insight.* 2016;1(14). PMID: 27660822
24. LaCourse MR, **Whipple M**, Hume C, Scott JD, Sardesai MG. Prospective cohort study of remote ear disease diagnosis using a smartphone otoscope. *J Investig Med* 2016;64:273-4.
25. Patel SA, Berens A, Devarajan K, **Whipple ME**, Moe KM. Minimally disruptive management of frontal sinus fractures – implementing a protocol for functional preservation. *JAMA Facial Plast Surg.* 2017 Feb 2. PMID: 28152148

26. Jung H, Law A, Grunblatt E, Wang LL, Kusano A, Mejino JLV, **Whipple ME**. Development of a novel markov chain model for the prediction of head and neck squamous cell carcinoma dissemination. *AMIA Annu Symp Proc*. 2017 Feb 10;2016:1832-1839. PMID: 28269942
27. Woodiwiss TR, **Whipple M**, Wu PC. Student satisfaction and the value of participation in a structured medical student research program. *J Investig Med* 2017.
28. Li Y, Bly RA, Harbison RA, Humphreys IM, **Whipple ME**, Hannaford B, Moe KS. Anatomical region segmentation for objective surgical skill assessment with operating room motion data. *J Neurol Surg B Skull Base*. 2017 Dec;78(6):490-496. PMID: 29134168
29. Wu S, Law A, **Whipple ME**. A Bayesian network model of head and neck squamous cell carcinoma incorporating gene expression profiles. *Stud Health Technol Inform*. 2017;245:634-638. PMID: 29295173

### **Other Publications**

1. Toriumi DM, Woolford TJ, **Whipple ME**. Difficult decisions in rhinoplasty. *Operative Techniques in Otolaryngology - Head and Neck Surgery*. 1995;6(4):274-303.
2. **Whipple ME**, Kohane IS. Reproducibility of gene expression clustering across different microarray technologies. Master of Science in Medical Informatics Thesis, Massachusetts Institute of Technology, Cambridge, MA. 2001.

### **Manuscripts in Press**

1. Aghdasi N, Bly RA, Humphrey IM, **Whipple ME**, Moe KM, Hannaford B. Automated surgical approach planning for complex skull base targets: development and validation of a cost function and semantic atlas. Accepted by *Surgical Innovation*.

### **Abstracts, Papers, Posters Presented at National and International Meetings**

- 2018 Kost AR, **Whipple ME**. With you 'til the end: characteristics of unmatched students can inform mentoring responses. Podium presentation at Learning Communities Institute Annual Meeting, New York, NY.
- 2018 Saxena R, Moe KM, Hannaford B, Li Y, Bly R, **Whipple ME**, Friedman S. Rhinoplasty surgical planning: visualization of nasal cartilage on micro-CT and clinical CT protocols. Podium presentation at American Academy of Facial Plastic and Reconstructive Surgery Spring Meeting, National Harbor, MD.
- 2018 Wick EL, **Whipple ME**, Goldman J, Litvack J. Trends in editorial board membership over the past 20 years. Podium presentation at American Laryngologic Association Spring Meeting, National Harbor, MD.
- 2018 Theeuwens H, **Whipple ME**, Litvack J. Otosyphilis: resurgence of an old disease with a new presentation. Podium presentation at Triological Society 121<sup>st</sup> Annual Meeting, National Harbor, MD.
- 2018 Ryan, MJ, Wenrich M, Engle K, Carline JD, **Whipple ME**, Allen S. One school in many: building a new medical school curriculum for multiple campuses. Small Group Discussion at Western Group on Educational Affairs, Denver, CO.

- 2018 Li Y, Bly R, Humphreys I, **Whipple ME**, Akkina S, Saxena R, Qin F, Hannaford B, Moe KM. Use endoscope and instrument and pathway relative motion as metric for automated objective surgical skill assessment in skull base and sinus surgery. Podium presentation at North American Skull Base Society meeting, Coronado, CA.
- 2017 **Whipple ME**, Kost AR. Recognizing and responding to suffering: a curriculum for pre-clinical students. Podium presentation at Learning Communities Institute Annual Meeting, Birmingham, AL.
- 2017 Carline JD, Allen S, Engle K, Ryan MJ, Wenrich M, **Whipple ME**. One school in many: building a new medical school curriculum for multiple campuses. Podium presentation at International Association for Medical Education meeting, Helsinki, Finland.
- 2017 Wu S, Law A, **Whipple ME**. A Bayesian network model of head and neck squamous cell carcinoma incorporating gene expression profiles. Podium presentation at 16<sup>th</sup> World Congress on Medical and Health Informatics, Hangzhou, China.
- 2017 Wick E, **Whipple ME**, Moe KM. Opening the black box of nasal osteotomies: navigation-guided rhinoplasty. Podium presentation at Combined Otolaryngology Spring Meeting, San Diego CA.
- 2017 Woodiwiss TR, **Whipple ME**, Wu PC. Student satisfaction and the value of participation in a structured medical student research program. Podium presentation at Western Medical Research Conference, Carmel CA.
- 2016 Jung H, Law A, Wu E, **Whipple ME**. Coordinated markov modeling of cancer metastasis from multiple primary sites. Podium presentation at Asia Pacific Association for Medical Informatics meeting, Seoul South Korea.
- 2016 Wang LL, Grunblatt E, **Whipple ME**. Auditing tree-like organ systems in the FMA using network motifs. Poster presentation at American Medical Informatics Association annual symposium, Chicago IL.
- 2016 Jung H, Law A, Grunblatt E, Wang LL, Kusano A, Mejino JLV, **Whipple ME**. Development of a novel markov chain model for the prediction of head and neck squamous cell carcinoma dissemination. Podium presentation at American Medical Informatics Association annual symposium, Chicago IL.
- 2016 Law AB, Jung H, Grundblatt E, Wang LL, **Whipple ME**. A model of regional tumor metastasis of squamous cell carcinoma of the tongue. Podium presentation at American Head & Neck Society 9<sup>th</sup> International Conference on Head and Neck Cancer, Seattle WA.
- 2016 LaCourse MR, **Whipple ME**, Hume C, Scott JD, Sardesai MG. Prospective cohort study of remote ear disease diagnosis using a smartphone otoscope. Podium presentation at Western Medical Research Conference, Carmel CA.
- 2015 Wang LL, Grunblatt E, Jung H, Kalet IJ, **Whipple ME**. Biological model development as an opportunity to provide content auditing for the Foundational Model of Anatomy ontology. Podium presentation at American Medical Informatics Association Annual Symposium, San Francisco CA.

- 2015 Wang LL, Grunblatt E, Jung H, **Whipple ME**, Kalet IJ. Biological model creation as ontological auditing for the Foundational Model of Anatomy. Poster presentation at National Library of Medicine, Bethesda MD.
- 2014 Kalet IJ, **Whipple ME**. Predicting the clinical target volume from anatomical knowledge: a first ever medical application of category theory. Abstract presentation at Northwest Chapter of the American Association of Physicists in Medicine, Seattle WA.
- 2007 Kubo M, McCulloch TM, **Whipple ME**, Cohen W, Anzai Y, Raske M, Kim P. A reclassification of temporal bone fractures and its association with facial nerve injury. Poster presentation at Triological Society Combined Section Meeting, Marco Island, FL.
- 2006 Benson N, **Whipple ME**, Kalet IJ. A markov model approach to predicting regional tumor spread in the lymphatic system of the head and neck. Podium presentation at American Medical Informatics Association, Washington, DC.
- 2006 **Whipple ME**, Barlow CB, Smith S, Goldstein EA. Early introduction of clinical skills improves medical student comfort at the start of third year clerkships. Podium presentation at American Association of Medical Colleges, Seattle, WA.
- 2006 Kubo M, McCulloch TM, **Whipple ME**, Cohen W, Anzai Y, Raske M, Kim P. A reclassification of temporal bone fractures and its association with facial nerve injury. Podium presentation at American Roentgen Ray Society, Vancouver, BC.
- 2004 **Whipple ME**, Mendez E, Farwell DG, Chen C. A log likelihood predictor for genomic classification using principal component analysis for feature selection. Podium presentation at Medinfo Symposium, San Francisco CA.
- 2004 Mendez E, Fan WH, Choi P, Agoff SN, Farwell DG, **Whipple ME**, Futran N, Weymuller EA, Maronian N, Zhao LP, Chen C. Genetic markers for metastasis of the oral squamous cell carcinoma to the cervical lymph nodes. Podium presentation at 6<sup>th</sup> International Conference on Head and Neck Cancer, Washington DC.
- 2004 Lee S, Futran NF, Yueh BY, Most SP, Maronian NM, **Whipple ME**, McCulloch TM, Stanley RB, Farwell DG. Use of MEDPOR at Harborview Medical Center for orbital reconstruction. Podium presentation at AO ASIF Advanced Symposium, Sun Valley ID.
- 2004 **Whipple ME**, Mendez E, Farwell DG, Chen C. A genomic predictor of oral squamous cell carcinoma using principal component analysis. Podium presentation at Triological Society Western Section Meeting, Scottsdale AZ.
- 2003 Kuo WP, Mendez E, **Whipple ME**, Ohno-Machado L, Park PJ. Functional relationship between gene pairs in oral squamous cell carcinoma. Podium presentation at American Medical Informatics Association Symposium, Washington DC
- 2002 Kalet IJ, **Whipple ME**, Pessah S, Barker J, Austin-Seymour MM, Shapiro LG. A rule based model for local and regional tumor spread. Podium presentation at American Medical Informatics Association Symposium, San Antonio TX.
- 2002 Teng CC, Austin-Seymour MM, Barker J, Kalet IJ, Shapiro LG, **Whipple ME**. Head and neck lymph node region delineation with 3-D CT image registration. Podium presentation at American Medical Informatics Association Symposium, San Antonio TX.

- 2002 Austin-Seymour MM, Barker JL, **Whipple ME**, Pessah S, Shapiro LG, Kalet IJ. Algorithm for selection of clinical target volume in clinically node-negative head and neck cancers treated with conformal radiotherapy/IMRT. Podium presentation at American Society for Therapeutic Radiation and Oncology, New Orleans LA.
- 2002 Barker JL, Austin-Seymour MM, Kalet IJ, **Whipple ME**, Teng CC, Shapiro LG. Automated delineation of regional target volumes for patients with head and neck cancer treated conformally. Podium presentation at American Society for Therapeutic Radiation and Oncology, New Orleans LA.
- 2002 Schinke M, Shioi T, Kim JH, Riggi L, Chen IB, Quing N, **Whipple ME**, Kong S, Converso KL, Kohane IS, Izumo S. Microarray-based analysis of gene expression during pressure-overload induced cardiac hypertrophy. Podium presentation at Cold Spring Harbor Laboratory, Cold Spring Harbor NY.
- 1997 **Whipple ME**, Mingrone M, Toriumi DM. An analysis of aerosols produced by dermabrasion and CO<sub>2</sub> laser resurfacing. Poster presentation at American Academy of Facial Plastic and Reconstructive Surgery, San Francisco CA.
- 1995 **Whipple ME**, Toriumi DM. An analysis of aerosols produced by dermabrasion. Podium presentation at American Academy of Otolaryngology - Head and Neck Surgery, New Orleans LA.
- 1994 **Whipple ME**, Kotler HS, Tardy ME, Toriumi DM. A computerized system for graphic record keeping in rhinoplasty. Podium presentation at American Academy of Facial Plastic and Reconstructive Surgery, Palm Beach FL.

**Accepted Abstracts, Papers, Posters Presented at National and International Meetings**

Saxena R, Whipple ME. Attending otolaryngologist participation in initial pre-operative surgical checklist improves operating room efficiency. Accepted for podium presentation at American Academy of Otolaryngology annual meeting, Atlanta GA.

**Invited Lectures – International/National**

- 2018 “How to choose a residency with a research focus.” Western Medical Research Conference, Carmel, CA.
- 2018 “Concurrent research session: Ophthalmology, Orthopedics, Otolaryngology, Neurosurgery.” (session moderator) Western Medical Research Conference, Carmel, CA.
- 2017 “Management of aerodigestive injuries.” American College of Surgeons Clinical Congress, San Diego, CA.
- 2017 “The management of penetrating trauma to the neck: A multidisciplinary approach.” (panel co-moderator) American College of Surgeons Clinical Congress, San Diego, CA.
- 2017 “How to choose a residency with a research focus.” Western Medical Research Conference, Carmel, CA.

- 2017 “The roles and responsibilities of faculty in learning communities.” (panel moderator) Learning Communities Institute Annual Meeting, Birmingham, AL.
- 2016 “How to choose a residency with a research focus.” Western Medical Research Conference, Carmel, CA.
- 2015 “A stepwise approach to facial trauma.” (panel moderator) Northwest Academy of Otolaryngology, Whistler, BC
- 2013 “Optimize patient education for patient satisfaction.” American Academy of Otolaryngology – Head & Neck Surgery, Vancouver BC
- 2009 “Sleep apnea examination: a hands-on course.” Sleep 2009: 23<sup>rd</sup> Annual Meeting of the Associated Professional Sleep Societies, Seattle WA
- 2008 “Electronic medical records for the Otolaryngologist.” American Academy of Otolaryngology-Head and Neck Surgery, Chicago IL
- 2008 “Applications of oncogenomics/proteomics in head and neck cancer research.” 7<sup>th</sup> International Conference on Head and Neck Cancer, San Francisco, CA
- 2007 “Electronic medical records for the Otolaryngologist.” American Academy of Otolaryngology-Head and Neck Surgery, Washington, DC
- 2006 “Electronic medical records for the Otolaryngologist.” American Academy of Otolaryngology-Head and Neck Surgery, Toronto, ON
- 2005 “Electronic medical records for the Otolaryngologist.” American Academy of Otolaryngology-Head and Neck Surgery, Los Angeles, CA
- 2004 “Bioinformatics for international collaborations in head and neck cancer.” University of Washington International Head & Neck Cancer Conference, Seattle WA
- 2003 “Genomics, proteomics and DNA microarrays.” American Academy of Otolaryngology-Head and Neck Surgery, Orlando FL
- 2002 “Genomics and DNA microarrays.” American Academy of Otolaryngology-Head and Neck Surgery, San Diego CA

**Invited Lectures – Local/Regional**

- 2016 “Future directions in medical education.” Evergreen Health Annual Retreat, Kirkland WA
- 2010 “Hereditary hemorrhagic telangiectasia.” University of Washington Chief of Medicine Rounds, Seattle WA
- 2009 “Temporal bone trauma.” Harborview Trauma Conference, Seattle WA
- 2006 “Sinonasal disease: an environmental and occupational health perspective.” Grand Rounds, University of Washington Dept. of Environmental and Occupational Health, Seattle WA
- 2003 “Genomics, bioinformatics and microarrays.” Northwest Radiobiology Course, Seattle WA