HARVARD MEDICAL SCHOOL CURRICULUM VITAE

PERSONAL INFORMATION

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EDUCATION

Year	Degree (Honors)	Fields of Study	Institution
1986	BA Honors in Biochemistry Magna Cum Laude	Biochemistry and English Literature	Brown University
1991	PhD	Program in Cellular and Molecular Biophysics; Advisor: Lloyd Greene	Columbia University Graduate School of Arts and Sciences
1993	MD	Medicine	Columbia University College of Physicians and Surgeons

POSTDOCTORAL TRAINING

Year	Title	Specialty/Discipline	Institution
07/1993 – 06/1994	Intern	Department of Internal Medicine	Brigham & Women's Hospital
07/1994 – 06/1997	Resident	Department of Dermatology	Harvard Medical School
07/1996 – 06/1998	Melanoma Fellow	Department of Dermatology/Division of Oncology	Mass General Hospital
07/1996 – 06/1998	Fellow	Dermatology	Harvard Medical School

FACULTY ACADEMIC APPOINTMENTS

Year(s)	Academic Title	Department	Academic Institution
1997-2000	Instructor	Dermatology	Harvard Medical School
2000-2007	Assistant Professor	Dermatology	Harvard Medical School

2005-	Member/Affiliated Faculty	HST	Harvard-MIT Div of Health Sciences and Technology
2007-	Associate Professor	Dermatology	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

Year(s)	Position Title	Department	Institution
Past			
1997-1998	Attending Dermatologist	Medicine	Cambridge Hospital
1998-2001	Assistant in Dermatology	Dermatology	Mass General Hospital
2001-2006	Assistant Dermatologist	Dermatology	Mass General Hospital
Current			
2001-	Faculty	Wellman Center for Photomedicine	Mass General Hospital
2007-	Associate Dermatologist	Dermatology	Mass General Hospital
2007-	Associate Faculty	Center for Human Genetic Research	Mass General Hospital

Other Professional Positions

Year(s)	Position Title	Institution
1999-	Medical Advisory Board	Melanoma Foundation of New England
2003	Board of Directors	Children's Melanoma Prevention Foundation
2003-	Scientific Advisory Board	Advances in Cosmetic and Medical Dermatology Meeting
2007-	Consultant	SciBASE
2010	Consultant	Metamark
2010-2011	Consultant	Genentech
2010-	Consultant	Quest Diagnostics
2011-	Consultant	Best Doctors
2012-	Consultant	WorldCare Clinical, LLC

Major Administrative Leadership Positions

Year(s)	Position Title	Institution
Local		
1997-2000	Chairperson; Residency Curriculum Committee	Harvard Medical School/Dept Dermatology
2000-2009	Faculty Director Resident Didactic Curriculum	Harvard Medical School/Dept Dermatology
2001-	Director, Melanoma Genetics Program	Mass General Hospital
2003-2005	Co-Director, Pigmented Lesion Clinic	Mass General Hospital
2003-	Director, Wellman Photomedicine Lecture Series	Mass General Hospital
2004	Symposium Director: "Mass Spectrometry in	Massachusetts General Hospital/Wellman

	Medicine: Genomics, Proteomics and Beyond"	Center for Photomedicine
2005-	Director, Melanoma and Pigmented Lesion Center	Mass General Hospital
2005-	Director, Melanoma Fellowship	Mass General Hospital
2007	CME Course Co-Director: "Advances in the Understanding, Diagnosis and Treatment of Melanoma"	Harvard Medical School
2007	CME Course Co-Director: "Early Detection and Management of Melanoma for the non-Dermatologist"	Boston University Medical School
2007-	Director, MGH Melanoma Lecture Series	Mass General Hospital
2009, 2011	CME Course Director: "Diagnosis and Treatment of Early Melanoma and Non-melanoma Skin Cancer"	Harvard Medical School
National		
2001-2005	Session Director: "Cancer Genetics and Cutaneous Melanoma"	American Academy of Dermatology Annual Meetings
2008-2010	Session Director, "Molecular Genetics of Melanoma"	American Academy of Dermatology Summer Meeting
2006-2007	Session Director, "The Human Genome"	American Academy of Dermatology Annual Meeting
2008-2011	Symposium Director, "Managing Melanoma in the New Millennium"	American Academy of Dermatology Annual Meeting
2012-	Symposium Director, "Next Generation (NextGen) Dermatology: Your Office in 2020"	American Academy of Dermatology Annual Meeting
2012-	Board of Directors	American Board of Dermatology
International		
2001-	Boston Site Director, GenoMEL International Melanoma Genetics Consortium	GenoMEL

COMMITTEE SERVICE

Year(s)	Name of Committee	Institution/Organization
Local		
1995-	Dermatology Residency Education Committee 1998-2000 2000-2010	Harvard Medical School/Dept Dermatology Chair, Dermatology Curriculum Committee Director, Dermatology Didactic Curriculum Committee
1999-2000	Procedural Dermatology Committee	Harvard Medical School/Dept Dermatology
1996-2001	Early Disease Committee 2001	Dana Farber/Partners Cancer Care (DF/PCC) Melanoma Program Co-Chairperson
1996-1997	Public Relations Committee	DF/PCC Melanoma Program Member
2001-	Cancer Genetics Group	MGH Cancer Center

2002-2003	Cell Biology Ad Hoc Search Committee	Wellman Laboratories of Photomedicine, Mass General Hospital
2003-	Subcommittee I; Admissions Committee	Harvard Medical School
2003-	Education Committee	Wellman Center for Photomedicine, Mass General Hospital
2004-2005	Ad Hoc Space Committee	Department of Dermatology, Mass General Hospital
2004-	Ad Hoc Faculty Recruitment Committee	Department of Dermatology, Mass General Hospital
2006-	Faculty Executive Council	Wellman Center for Photomedicine
2006-	Executive Committee	Harvard Skin Cancer SPORE
2007-	Steering Committee, Office of Research Career Development	Mass General Hospital
National		
2002-	Melanoma Prevention Working Group	Eastern Cooperative Oncology Group
2006-	Melanoma Committee	Eastern Cooperative Oncology Group
2009-	Massachusetts Chapter 2009-2010 2010-	Dermatology Foundation Vice Chair Chair
International		
2001-	Melanoma Program	World Health Organization (WHO) Member

PROFESSIONAL SOCIETIES

Year(s)	Society Name	Title of Role(s)
2002-	American Academy of Dermatology	
	2002	Member, Poster Committee
	2005	Member, Technical Advisory Board, American Academy of Dermatology/Entertainment Industries Council (First Draft)
	2006-2010	Member, Melanoma/Skin Cancer Committee
	2006-2011	Member, AAD Guidelines for Melanoma Management Committee
	2006	Member, AAD Seal of Recognition Work Group
	2006-2011	Member, AAD Core Curriculum Committee
	2009	Member, Indoor Tanning Working Group
	2010-	Member, Council of Science and Research
	2011-	Chair, AAD Young Investigators Award Committee
	2011-	Chair, Core Curriculum Task Force
	2011-	Member, The Enduring Materials Committee
	2011-	Member, Needs Assessment and Outcomes Committee
	2013-	Chair, Melanoma/Skin Cancer Committee

2000-	Society for Investigative Dermatology 2001-2005 2002-2007 2004-2008 2005-2008 2005-2007 2009 2010 2011 2011 2012	 Member, NIAMS Coalition Member, Albert Kligman Fellowship Committee Member, Committee on Scientific Programs Abstract Review Committee Member, Membership Committee Member, Resident Retreat Organizing Committee Chair, Membership Committee Co-Chair, Education Committee Chair, Education Committee Chair, Translational Research Forum Member ex officio, Education Committee
2007-	American Board of Dermatology 2007- 2012-	 Member, Basic Science Subcommittee Board of Directors
2009-	American Society of Clinical Oncology	Member, Cancer Education Committee
1996-	American Association for the Advancement of Science	Member
1999-	Mexican Dermatological Society	Honorary Lifetime Member
2001-	New England Dermatological Society	Member
2001-	American Association for Cancer Research	Member

GRANT REVIEW ACTIVITIES

Year(s)	Name of Committee	Institution/Organization
2004-2007	Medical and Scientific Committee	Dermatology Foundation
2004	"Combating Cancer" Study Section	European Commission's 6th Framework Programme for Research
2005	Study Section	Austrian Science Fund Study Section
2006-	Study Section	Cancer UK
2008	ZRG1 MOSSH-02 Study Section,	National Institutes of Health
2009-	Carcinogenesis/ Nutrition and the Environment Study Section	American Cancer Society
2009	Study Section	British Skin Foundation
2010	Community Level Health Promotion (CLHP) Study Section	National Institutes of Health
2011-	Study Section	Melanoma Research Alliance
2012-	CDMRP PRCRP D-SC 1 peer review panel	Department of Defense

EDITORIAL ACTIVITIES

Ad Hoc Reviewer

Archives of Dermatology
Journal of the American Academy of Dermatology
Melanoma Research
Journal of Investigative Dermatology
Journal of the American Medical Association
Journal of the National Cancer Institute
Cancer Research
Cancer
New England Journal of Medicine
Journal of Medical Genetics
Human Pathology
American Journal of Pathology
Dermatological Surgery
Nucleic Acid Research

Other Editorial Roles

Year(s)	Role	Journal Name
2001	Guest Editor	November 2001 Genome Issue, Archives of Dermatology
2001-2010	Basic Science Editor	Journal Watch for Dermatology
2010-	Editor-in-Chief	Journal Watch for Dermatology
2003-2008	Editorial Board	Journal of the American Academy of Dermatology
2008-	Assistant Editor	Journal of the American Academy of Dermatology
2004-	Molecular Medicine Section Editor	British Journal of Dermatology
2004-2007	Associate Editor	Journal of Investigative Dermatology
2008-	Editorial Academy	International Journal of Oncology
2010-	Section Editor	Melanocytic Tumors, Up-To-Date
2010-	Editorial Board	American Journal of Translational Research
2010-	Section Editor	Milestones, Journal of Investigative Dermatology

HONORS AND PRIZES

Year	Name of Honor/Prize	Awarding Organization	Achievement
1985	Phi Beta Kappa	Brown University	Scholarship
1986	Sigma Xi Scientific Society	Brown University	Scholarship
1986	Honors in Biochemistry	Brown University	Research
1986-1993	NIH Medical Scientist Training Program	Columbia University	Research

1991	Alfred Steiner Dean's Day Award for Excellence in Research	Columbia University Graduate School of Arts & Sciences	Research
1992	Alpha Omega Alpha	Columbia University College of Physicians and Surgeons	Scholarship
1993	Titus Munson Coan Prize	Columbia University College of Physicians and Surgeons	Scholarship
1997	Travel Grant to 19th World Congress of Dermatology, Australia	American Academy of Dermatology	Research
1999	Young Investigator's Award	American Academy of Dermatology	Research
2000	Research Award for Outstanding Poster Presentation	International Conference on Melanoma, Athens, Greece	Research
2004	HMS Leadership Development of Physicians/Scientists	Harvard Medical School	Leadership
2005	Samuel Bluefarb Award	Chicago Dermatological Society/ Northwestern University	Teaching/research
2005 - 2006	Massachusetts General Hospital Physician Leadership Development Certificate Program	Mass General Hospital	Leadership
2007	William Reed Award	University of California, San Francisco	Teaching/research
2007	Partners-in-Excellence Award for Leadership and Innovation	Mass General Hospital	Clinical
2008	Elected Member	American Dermatological Association	Research
2008	Individual Honoree	MGH Cancer Center "The 100 Award"	Clinical
2008	Louis A. Brunsting Memorial Award	Department of Dermatology, Mayo Clinic	Teaching/research
2008	2008 Louis Duhring Award	University of Pennsylvania, Philadelphia, PA	Teaching/research
2008	A. Edgar Miller, Jr. Memorial Award	Florida Society of Dermatology and Dermatological Surgery	Teaching/research
2009	Elected Member	American Society for Clinical Investigation	Research
2009	Team Leader	MGH Cancer Center "The 100 Award" for the MGH Melanoma and Pigmented Lesion Center	Leadership
2009	Henry Silver Award	Dermatologic Society of Greater New York	Teaching/research
2009	Partners-in-Excellence Award for Leadership and Innovation	Massachusetts General Hospital, Boston, MA	Clinical/leadership
2010	Martin Luther King, Jr. Visiting Scholar Award	University of Michigan Dept of Dermatology	Teaching/research

2010	John Person Award	University of Massachusetts Dept of Dermatology	Teaching/research
2010	Abby S. & Howard P. Milstein Innovation Award	American Skin Association	Research
2012	Marion Sulzberger Award	American Academy of Dermatology	Research

REPORT OF FUNDED AND UNFUNDED PROJECTS

Funding Information

Year(s)	Grant
Past	
1998	Warner Wellcome Research Fellowship Award Dermatology Foundation PI
1999	The Deborah Shalita Marmour Clinical Career Development Award Dermatology Foundation PI
1999 - 2002	"Translational Genetics of Cutaneous Melanoma" CRTG-99-249-01 CCE American Cancer Society PI
2001 - 2006	Project 1 Co-Leader: "Modeling Melanoma Risks: Implication for Prevention Strategies" NIH/NCI P50 CA-93683-01 SPORE in Skin Cancer (PI: T.S.Kupper/BWH) Project 1 Co-Leader
2002 - 2003	Skin Cancer SPORE Career Development Award: "Genetics of Atypical Moles" NIH/NCI P50 CA-93683-01 (SPORE PI: Kupper/BWH) PI
2002	American Academy of Dermatology Clinical Career Development Award Dermatology Foundation PI
2002 - 2003	DM Carter Scholar Award American Skin Association PI
2003	Physician-Scientist Clinical Career Development Award Dermatology Foundation PI
2003 - 2007	"Ultraviolet Light-Melanocyte Interaction" F49620-01-1-0014 (PI: Parrish) DOD/AFOSR Project Leader
2003 - 2008	"Nucleotide Excision Repair in Cutaneous Melanoma" K08 CA095532 A01 NIH/NCI PI

2006 - 2011	"Genetic Epidemiology of Melanoma" R01-CA83115 (PI: Elder/U. Penn) NIH/NCI Subcontract
2007 - 2011	"Refining Molecular Risk Assessment in the Familial Melanoma Population" RSG MGO-112970 American Cancer Society PI
2008 - 2010	"The Role of EphA2 in UV-mediated Apoptosis" 1R21ES013964-01A1 NIH/NIEHS PI
Current	
2008 - 2013	Project 5: "Correlating Environmental and Genetic Risk Factors with Molecular Signatures in Melanoma" NIH/NCI: P50 CA-93683 NCI SPORE in Skin Cancer Project 5 Co-Leader *The aim of this project is to correlate environmental and genetic risk factors with molecular signatures in melanoma.*
2010 - 2015	"Molecular Risk Assessment in Hereditary Melanoma" NIH (NCI): K24 CA149202-01 PI *The developmental goals of this K24 are intended to train and mentor patient-oriented physician scientists to conduct innovative research that will transform molecular genetics into molecular medicine.*
2010 - 2013	"Governance of Cutaneous Photocarcinogenesis by Chronic UVA-Exposed Dermal Fibroblasts" Department of Defense: CA093588 PI *The long-term goal of this Project is to reduce the risk of melanoma and non-melanoma skin cancer (NMSC) formation or progression through a better understanding of UVA carcinogenesis.*
2010 - 2015	"p53 Rescue as a Therapeutic Strategy in Melanoma" American Skin Association: Milstein Innovation Award in Melanoma PI *The overall goal of this Proposal is to further refine the mechanism of Nt3-induced growth suppression in melanoma and verify the in vitro observations in vivo with an eye towards bringing p53 rescue to the clinical setting*
2011 - 2013	"Studies on the Mechanism(s) of de novo and acquired resistance to the RAF inhibitor PLX4032" Melanoma Research Alliance:Team Science Award PIs: D. Solit/MSKCC & H Tsao/MGH *The major goal of this project is to enhance clinical utility of Braf-targeted therapy for melanoma.*
2011 - 2016	Project 3: "Multicolor rainbow imaging of clonal expansion in tumors" NIH/NCI Center for Molecular Imaging Research: 2P50 CA86355-12 Project 3 Co-Leaders: Tsao/Lin

	The overarching goal of this project is to forward and backward track cancer cell fates and histories using new imaging approaches to redefine cancer evolution and therapeutic escape on the cellular and molecular level.
2011 - 2012	"Portable MR Device to Evaluate Skin Lesions" Dept of Defense Air Force Office of Scientific Research: FA9550-10-1-0537 PI *The goal of this project is to develop an open-magnet hand held portable MR device.*
2011 - 2013	"Sensitivity of Cephalon's BRAF inhibitor in melanoma cell lines" Cephalon, Inc Research Contract *The goal of the subcontract is to test a new Braf inhibitor from Cephalon*

Current Unfunded Projects

Year(s)	Role on Project/Title of Project
2010-	Co-developer/ "Integrated melanoma patient tracking and research database" I am supervising our melanoma fellow, Dr. Oliver Wisco, in developing a melanoma database that can capture clinic flow information, disease features and outcomes
2012-	Study co-investigator/ "Retrospective collection of primary melanomas from the MGH PLC" I am a co-PI on a study to retrieve all melanoma specimens from the MGH PLC so as to create a tissue microarray

REPORT OF LOCAL TEACHING AND TRAINING

Teaching of Students in Courses

Year	Course Title	Location
1999-2004, 2006, 2008, 2010	Pathophysiology of the Skin/Small Group Leader 2nd year HMS medical students	Harvard Medical School 1 hr session per day for 5 days per year
2000-current	Pathophysiology of the Skin/Lecturer "Skin Cancer" 2nd year HMS medical students	Harvard Medical School 1 hr session per year
2011	HST 160: Molecular Biology and Genetics in Modern Medicine 1st year HST medical students	Harvard Medical School 1 clinical mentor per year

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

Year	Title	Location
1998	"Approach to the Melanoma Patient" lecture HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology 1 hr session
1998-	Dermatology Grand Rounds	Harvard Medical School/ Dept Dermatology

	HMS medical students, dermatology residents, dermatology clinical fellows and attendings	1-3 sessions per year
1998 - current	Dermatology Resident Basic Science Journal Club and Seminar Series HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology 1 hr session per month for 12 months per year (1998-2008) 1 hr session per month twice per year (2008-current)
1999	"Introduction to Cutaneous Melanoma" lecture HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology 1 hr session
2000	"Clinicopathological Conference: 56 year old man with a changing lesion on the leg" discussion HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology 1 hr session
2000	"Skin Development" and "Structure/Function of the Skin" lectures for Harvard Medical School HMS medical students, dermatology residents, dermatology clinical fellows and dermatology attendings	Harvard Medical School/ Dept Dermatology 2 hr session
2001	"Update on Cutaneous Melanoma" lecture HMS medical students, dermatology residents, dermatology clinical fellows and dermatology attendings	Harvard Medical School/ Dept Dermatology 1 hr session
2002	"Skin Development" lecture HMS medical students, dermatology residents, dermatology clinical fellows and dermatology attendings	Harvard Medical School/ Dept Dermatology 1 hr session
2002	"Basic Science of the Epidermis" lecture HMS medical students, dermatology residents, dermatology clinical fellows and dermatology attendings	Harvard Medical School/ Dept Dermatology 1 hr session
2002-2005, 2007, 2009	"Structure/Function of Skin: Part I Embryology; Part II Keratinocytes; Part III: Basement Membrane Zone and Dermis" lecture series HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology Three 1- hr sessions per year for 6 years
2005	"Review of Molecular Genetics" lecture HMS medical students, dermatology residents and dermatology clinical fellows	Harvard Medical School/ Dept Dermatology 1 hr session
2006-2009	"Introduction to Melanoma and Pigmented Lesions" lecture HMS dermatology residents, HMS dermatology clinical fellows and International	Harvard Medical School/ Dept Dermatology 1 hr session per year for 4 years

	Training Program fellows	
2011	"Introduction to Skin Cancer" lecture Summer PhD students	Wellman Center for Photomedicine 1 hr session

Clinical Supervisory and Training Responsibilities

Year(s)	Type of Responsibility/Location	Level of effort
1997-1998	Dermatology Clinic Preceptor/Cambridge Hospital	One half day per week
1998-current	Dermatology Clinic Preceptor/Massachusetts General Hospital	One half day per week
1999-current	Melanoma and Pigmented Lesion Clinic Preceptor/ Massachusetts General Hospital	One half day per week
1999-current	Dermatology Inpatient Consultation Service/Massachusetts General Hospital	4 weekends per year
2008-current	Melanoma and Pigmented Lesion Clinic Supervisor for Nurse Practitioner/ Massachusetts General Hospital	One half day per week

Laboratory and Other Research Supervisory and Training Responsibilities

Year(s)	Type of Responsibility/Location	Level of effort
2000-2012	Reader for HMS/HST Honors and PhD candidate theses/ Massachusetts General Hospital	3 days for each thesis candidate 5 theses to date
2001 - current	Supervise post doctoral research fellows/Wellman Center for Photomedicine, MGH	Daily mentorship 4 days per week
2001, 2003, 2005, 2007, 2008, 2010, 2011	Supervise and mentor medical students from HMS and other medical schools for periods of two months to two years/ Wellman Center for Photomedicine, MGH	Daily mentorship 4 days per week
2010-current	Thesis committee for PhD Candidates (Katey Robinson-HMS)/ MGH	4 days per year

Formally Supervised Trainees

Year(s)	Name/Degree; Current Position and Description
1999-2000	Uma Nadiminti MD; Private dermatology practice Trained in clinical research and published 1 manuscript (PMID: 11255333)
2001-2002	Myra Feldman MD; Academic radiology at Cleveland Clinic Trained in clinical research and published 1 manuscript (PMID: 14732662)
2001-2007	Guang Yang, MS; Aventis-Sanofi

	Trained in cancer genetics and published 7 manuscripts (PMID: 15304098, 15009714, 16169933, 16354195, 16374456, 16888633, 17575131).
2001-2007	Kristin Niendorf, MS; Humphrey Cancer Center, MN Trained in melanoma risk counseling and published 8 manuscripts (PMID: 14985491, 15304098, 15523363, 15708293, 16169933,16405564, 17047042, 20068151)
2001-2005	Caroline Bevona, MD; Harvard Vanguard Supervised as MGH Melanoma Fellow and published 3 manuscripts (PMID: 12622618, 14576682, 14676081) and 1 book chapter
2001-2006	William B. Goggins, PhD; Professor, Chinese University of Hong Kong Trained in melanoma epidemiology and published 7 manuscripts (PMID: 11241258, 12548605, 12622618, 14676081, 15252852, 16049985, 16169933)
2001-2006	Kenneth Tsai MD/PhD; Asst Prof, MD Anderson Trained in melanoma genetics, advisor in dermatology residency and published 3 manuscripts (PMID: 15468170, 16169933, 17437886)
2003-2004	Brian Somoano MD, Dermatology resident, Stanford Med School Mentored as Doris Duke Scholar in laboratory, mentored in dermatology and published 2 manuscripts (PMID: 15708293, 18023772)
2004-2008	Guoqi Zhang, MD PhD; Research Fellow, HMS Beth Israel Deaconess Medical Center Trained in melanoma genetics and published 3 manuscripts (PMID: 16888633, 18339848, 21666714)
2005-2008	Thomas Hocker MD, MS; Dermatology resident, Mayo Clinic Supervised HMS Honors Thesis and published 4 manuscripts (PMID: 18927540, 18547303, 18047516, 17295241)
2005-2006	Irene Stefanaki, MD; Assistant Professor, A. Sygrous Hospital Dept Dermatology Trained in melanoma genetics and published 1 manuscript (PMID: 16374456)
2006-2008	Jong Min Park, MD; Academic Dermatology, Seoul, South Korea Trained in clinical research and published 3 manuscripts (PMID: 18306166, 18339848, 21453985)
2007-2009	Jamison Feramisco MD PhD; Private practice Trained in computational genetics and published 4 manuscripts (PMID: 18304166, 19744994, 20579602, 19536140)
2007-2008	Meena Singh MD; Dermatology resident, Mayo Clinic Mentored in clinical dermatology and published 3 manuscripts (PMID: 18927540, 18547303, 18047516)
2007-2008	Bryan Sun MD PhD; Dermatology resident, Stanford Med School Mentored in clinical dermatology and published 2 manuscripts (PMID: 18509358, 19119093)
2007-2010	Wenyi Wang PhD; Assistant Professor; MD Anderson Trained in melanoma genetics and published 1 manuscript (PMID: 20068151)
2008-2009	Khanh Thieu MD; Dermatology resident, Columbia University Trained in melanoma genetics and published 1 manuscript (PMID: 19903842) and 2 book chapters
2008-2009	Adam Lipworth, MD; HMS Instructor, Dept Dermatology Brigham and Women's Hospital Trained in clinical research and published 1 manuscript (PMID 21453985)
2008-2010	Jordan Cummins, MD PhD; Harvard University Health Services Residency faculty advisor in dermatology

2008-2010	Arlo Miller, MD PhD; Private practice Mentored in clinical melanoma and published 1 manuscript (PMID: 19863502)
2008-2010	Andrea Boni, MD; Pathology resident, Dartmouth Medical School Trained in molecular biology and melanoma genetics and published 1 manuscript (PMID: 20551059)
2008-2011	Alireza Sepehr, MD; HMS Instructor, Dept Path Beth Israel Deaconess Hosp, MA Trained in clinical melanoma research and published 3 manuscripts (PMID: 22082839; 22082838; 21680758)
2008-current	Zhenyu Ji, MD PhD; Research Fellow, HMS MGH Currently training in melanoma genetics and therapeutics and published 4 manuscripts to date (PMID: 21993556, 21962474, 21666714, 20176049.
2008-2012	Durga Udayakumar, PhD, Instructor, MD Anderson Trained in melanoma biology and published 6 manuscripts (PMID: 21666714, 21051013, 20551059, 19903842, 19863770, 19464594)
2008-current	Jenny Njauw, MS; MGH Research Associate Training in melanoma genetics, mentoring in medical career and published 10 manuscripts to date (PMID: 21993556, 21801156, 21666714, 21160499, 21085193, 20876876, 20551059 19903842, 18339848, 18077425)
2009-2010	Su Luo MD; Dermatology resident, HMS Trained in clinical dermatology while on an AMA Medical Student Award and published 4 manuscripts (PMID: 22082839; 22082838; 21160499; 21085193)
2009-2010	Kang Xiao-Jing, MD PhD; Assistant Professor, Department of Dermatology & Venereology, People's Hospital of Xinjiang Uygur Autonomous Region Trained in melanoma genetics and published 1 manuscript (PMID: 21801156)
2010	Clara Latorre, MD; Buenos Aires Cancer Registry Trained in melanoma epidemiology, genetics and published 1 manuscript (PMID: 21801156)
2010-11	Oliver Wisco, DO; Director of Mohs Surgery Keesler AFB, MS Supervised as MGH Melanoma Fellow and published 1 book chapter
2011-current	Michael Taylor, BS; Premedical student; MGH Training in molecular genetics, mentoring in medical career and published 1 manuscript to date (PMID: 21993556)
2011-current	Raj Kumar, PhD; Research Fellow Currently training in melanoma genetics and therapeutics
2012-current	Benchun Miao, PhD; Research Fellow Current training in molecular therapeutics

Formal Teaching of Peers (e.g., CME and other continuing education courses)

Year(s)	Title(s) or topic(s) of talk(s)	Number of talks
1998	"Dermatopathology Unknowns" HMS CME: Dermatopathology for the General Pathologist and Dermatologist, Harvard Medical School	Lecture Boston
2001	"Risk Factors for Cutaneous Melanoma: a Patient-oriented Approach" 2001 Melanoma Symposium, Harvard Medical School	Lecture Boston

2005, 2009	"Skin Cancer Genetics" The Genetic Basis of Adult Disease 2005: What the Primary Care Provider Needs to Know, Harvard Medical School	Lecture Boston
2008-2009	"Melanoma Diagnosis" Advances in Cancer Management for the Surgeon, Harvard Medical School	Lecture Boston
2009	"A 15 year old with a recurrent skin lesion" Update on Dermatopathology, Harvard Medical School	Lecture Boston
2009	"Risk Assessment in Melanoma" Advances in the Understanding, Diagnosis and Treatment of Melanoma Harvard Medical School/Dana Farber-Harvard Cancer Center	Lecture Boston
2009, 2011	"Mole or Melanoma? Assessing Patient Risk and Lesion Risk" Diagnosis and Treatment of Early Melanoma and Non-melanoma Skin Cancer Harvard Medical School/Dept of Dermatology, MGH	Lecture Boston
2011, 2012	"Melanoma and Non-melanoma Skin Cancer" Internal Medicine: Comprehensive: Review and Update Harvard Medical School/Dept of Medicine, MGH	Lecture Boston

Local Invited Presentations

Year(s)	Title of presentation
1997	Harvard Medical School/New England Dermatological Society Chairperson and Moderator, Harvard Meeting
1997	"Ultra-late recurrences and cutaneous melanoma" Dana Farber/Partners Cancer Care/Melanoma Program
1998	"Skin Cancer" Massachusetts General Hospital/Bullfinch Medical Group
1998	"Skin Cancer and the Cancer Patient" Massachusetts General Hospital Cancer Center
1998	"*CDKN2A* mutations among early onset melanoma patients" Dana Farber-Partners Cancer Care Melanoma Program
1999	"Common Skin Tumors"; "Contact and Seborrheic Dermatitis" Beth Israel Deaconess Medical Center/Department of Medicine Preceptorship in Dermatology for the Primary Care Physician
1999	"The Spectrum of Skin Cancer" Massachusetts General Hospital/Department of Plastic Surgery
2000	"Cancer Genetics and Cutaneous Melanoma" Harvard Medical School/Department of Dermatology Combined Massachusetts General Hospital-Longwood Area Rounds
2000	"Molecular Genetics of Cutaneous Melanoma"

	Dana Farber/Harvard Cancer Care/Melanoma and Cutaneous Oncology Program
2000	"Molecular Genetics of Cutaneous Melanoma" Massachusetts General Hospital/Wellman Laboratories
2000	"Benign and Malignant Skin Tumors" Massachusetts General Hospital/Department of Medicine, Primary Care Clerkship
2000	"Molecular Genetics of Cutaneous Melanoma" Massachusetts General Hospital/Pathology Grand Rounds
2001	"Cancer Genetics and Melanoma" Massachusetts General Hospital/Wellman Laboratories
2002	"The Dark Side of Light: Nonmelanoma Skin Cancer" Massachusetts General Hospital/Wellman Laboratories
2002	"A 48 year old woman with a personal and family history of melanoma: a New England Journal of Medicine Clinical-Pathological Conference (CPC)" Massachusetts General Hospital/Depts Dermatology and Pathology
2004	"Introduction to Molecular Genetics" Massachusetts General Hospital/Wellman Center
2004	"Managing Melanoma in the New Millenium" Harvard Medical School/Department of Dermatology Combined Massachusetts General Hospital-Longwood Area Rounds
2005	"Familial Melanoma Genetics" Skin Cancer Program/Dana Farber-Harvard Cancer Center
2005	"Anatomy/Physiology of the Skin and Skin Cancer" Massachusetts General Hospital/Wellman Center for Photomedicine
2006	"Review of Skin Cancer" Massachusetts General Hospital/Bullfinch Medical Group
2007	"Genetics of Melanoma" Massachusetts General Hospital Cancer Center
2007	"Melanoma: Risk Assessment and Diagnosis for the Primary Care Physician" Massachusetts General Hospital Cancer Center
2007	"Update on Melanoma and Technology" Massachusetts General Hospital/CIMIT
2009	"Top Melanoma Stories 2009" Melanoma Lecture Series/ Massachusetts General Hospital Cancer Center
2010	"Overview of the Melanoma Genetics Program" Center for Human Genetics Research/ Massachusetts General Hospital
2010	"Melanoma Target Practice" Wellman Center for Photomedicine/ Massachusetts General Hospital

REPORT OF REGIONAL, NATIONAL AND INTERNATIONAL INVITED TEACHING AND PRESENTATIONS

"No presentations below were sponsored by outside entities"

Year(s)	Title of presentation
Regional	
1996	"Management of Cutaneous Melanoma"/Department of Medicine Grand Rounds Carney Hospital; Dorchester, MA
2001	"Update on Melanoma Genetics"/ /Department of Medicine Grand Rounds University of Massachusetts; Worcester, MA
2001	"Update on Risk Factors for Melanoma"/ Department of Medicine Grand Rounds Newton Wellesley Hospital; Newton, MA
2002	"Current Perspectives on Common Dermatoses" and "Current Perspectives on Common Skin Neoplasms"/ Invited Lecturer Annual Meeting/American Association of Physician Assistants, Boston, MA
2004	"Hereditary Influences on Cutaneous Melanoma"/ Department of Dermatology Grand Rounds Beth Israel Hospital; Boston, MA
2004	"The Genetics of Melanoma-The Old, The New and The Future"/ Invited Lecturer Atlantic Dermatological Conference; Boston, MA
2004	"Managing Melanoma Tomorrow"/ Department of Dermatology Grand Rounds Dartmouth-Hitchcock Medical Center; Hanover, NH
2004	"Managing Melanoma in the New Millennium"/ Departments of Dermatology Grand Rounds Boston University-Tufts; Boston, MA
2006	"Melanoma in the Molecular Era"/ Department of Dermatology Visiting Professor SUNY Downstate Medical Center, Brooklyn, NY
2006	"p16: Patients, Point Mutations and Pathways"/ Vermont Cancer Center Invited Lecturer University of Vermont, Burlington, VT
2006	"The Genetics of Skin Cancer"/ Department of Genetics Invited Lecturer Boston University Medical Center, Boston, MA
2006	"Managing Melanoma in the Molecular Era"/ Department of Dermatology Visiting Professor University of Connecticut, Farmington, CT
2007	"Melanoma Genetics and Research"/**Plenary Lecturer** "Cancer and Development"/Invited Lecturer American Academy of Dermatology Summer Meeting, New York, NY
2007	"A Clinical View of Melanocytic Tumors for the non-Dermatologist"/Invited Lecturer CME: Early Detection and Management of Melanoma for the non-Dermatologist Boston University School of Medicine; Boston, MA
2008	"Moles and Melanoma from the Dermatologist"/ Department of Medicine Grand Rounds Caritas Carney Hospital; Dorchester, MA
2008	"Personalizing Melanoma Management"/ Department of Dermatology Visiting Professor Brown Medical School, Providence, RI
2009	"Update on Melanoma" /Invited Lecturer "Mel-anomalies"/Invited Lecturer Massachusetts Academy of Dermatology, Newport, RI
2010	"Update on Moles and Melanomas"/ Department of Dermatology **John Person Visiting Professor** "Update on Melanoma Genetics for the Clinician"/ Department of Medicine Grand Rounds

	University of Massachusetts; Worcester, MA
National	
1998	"Prevalence of germline *p16/CDKN2A* and *CDK4* mutations in patients who develop melanoma before age 40" (Abstract)/Invited Lecturer American Society for Human Genetics; San Francisco, CA
1999	"Cutaneous Melanoma: Lessons Learned from Patients"/Dept of Dermatology Invited Lecturer "Genetic Pathways and Cutaneous Melanoma"/ Dept of Dermatology Invited Lecturer Mayo Clinic and Graduate School; Rochester, MN
2000	"Molecular Genetics of Melanoma"/ Karamanos Cancer Center Invited Lecturer Wayne State University; Detroit, MI
2001	"Melanoma Genetics"/ Department of Dermatology Invited Lecturer Washington University in St. Louis; St. Louis, WA
2002	"Genetics of Cutaneous Melanoma"/ Invited Lecturer American Academy of Dermatology Annual Meeting, New Orleans, LA
2002	"Translational Genetics of Melanoma"/ Invited Lecturer Dermatology Branch/National Cancer Institute; Bethesda, MD
2002	"Update on Familial Melanoma from the MGH"/ Invited Lecturer National Cancer Institute, Bethesda, MD
2002	"Translational Genetics of Melanoma: from Point mutations to Pathways to Patients"/ Department of Dermatology Grand Rounds Emory University; Atlanta, GA
2002	"Molecular Basis of Hereditary Melanoma"/ Invited Lecturer National Society of Genetic Counselors Annual Meeting; Phoenix, AZ
2002	"Xeroderma Pigmentosum Genes and Cutaneous Melanoma"/ Invited Lecturer American Skin Association; New York, NY
2003	"Managing Melanoma in the Molecular Era" and "BRAF Molecular Markers in Melanoma"/Invited Lecturer Annual Hawaii Dermatology Seminar; Maui, Hawaii
2003	"AAD Poster Session"/ Session Co-Chair American Academy of Dermatology Annual Meeting; San Francisco, CA
2003	"Molecular Basis of Melanoma"/ Invited Lecturer American Academy of Dermatology Summer Meeting, Chicago, IL
2003	"Managing Melanoma in the Molecular Era"/ Department of Dermatology Visiting Professor Case Western Reserve University; Cleveland, OH
2003	"Molecular Mechanisms of Pathogenesis in Melanoma"/ Invited Lecturer Perspectives in Melanoma VI; Miami, FL
2004	"Managing Melanoma Today;" and "Managing Melanoma Tomorrow"/ Invited Lecturer Atlanta Dermatology Society; Atlanta, GA
2004	"Hereditary Influences on Cutaneous Melanoma"/Invited Lecturer American Academy of Dermatology Annual Meeting, Washington, DC
2005	"Molecular Biology of Pigmentary Disorders"/Invited Lecturer Society for Pediatric Dermatology Annual Meeting; San Diego, CA
2005	"Review of Molecular Biology" and "Genetic Markers in Dermatology"/Invited Lecturer "Melanoma Symposium: 2005"/ Moderator

	Advances in Cosmetic and Medical Dermatology; Maui, HI
2005	"Melanoma Update: Molecular Mechanisms" and "Laboratory and Imaging Studies: Is There a Role in Melanoma?"/Invited Lecturer American Academy of Dermatology Annual Meeting, New Orleans, LA
2005	"Managing Melanoma in the New Millennium"/ Invited Lecturer Colorado Dermatology Society, Aurora, CO
2005	"Skin Cancers: from Bedside to Benchside"/Invited Lecturer Society for Investigative Dermatology Annual Meeting; San Antonio, TX
2005	"Managing Melanoma in the New Millenium"/ **Plenary Lecturer** Chicago Dermatological Society; Chicago, IL
2005	"Molecular Genetics of Skin Cancer"/ **Plenary Lecturer** American Society for Dermatological Surgery/American College of Mohs Micrographic Surgery and Cutaneous Oncology Annual Meeting; Atlanta, GA
2005	"Melanoma From the Dermatologist's Perspective"/ Invited Lecturer Baptist Cancer Center; Jacksonville, FL
2005	"Melanoma in the New Millennium"/ Invited Lecturer Departments of Dermatology and Oncology/Johns Hopkins Medical Center and Johns Hopkins Cancer Center; Baltimore, MD
2005	"Top 10 Stories in the Past Year" and "New Paradigms in Dermatology"/ Invited Lecturer Advances in Cosmetic and Medical Dermatology; Maui, HI
2006	"Laboratory and Imaging Studies: Is There a Role in Melanoma?"/ Invited Lecturer American Academy of Dermatology Annual Meeting; San Francisco, CA
2006	"Managing Melanoma in the Molecular Era"/ Invited Lecturer Dermatology Nurses Association Annual Meeting; San Francisco, CA
2006	"Families and Melanoma"/ Invited Lecturer Dermatology Foundation Meeting, San Francisco, CA
2006	"Molecular Genetics of Melanoma"/ **Plenary Lecturer** (Blank Resident Forum) Society for Investigative Dermatology Annual Meeting; Philadelphia, PA
2006	"Emerging Therapies for Skin Cancer" and "Genodermatoses for the Pediatric Dermatologist"/ Invited Lecturer American Academy of Dermatology Summer Meeting, San Diego, CA
2006	"Melanoma in the Genetic Era" and "Introduction to Melanoma Management"/ Department of Dermatology Visiting Professor Henry Ford Hospital; Detroit, MI
2007	"Top 10 Stories of 2006"/ Invited Lecturer "Clinicopathological cases: Skin Cancer" and "Panel Discussion on Skin Cancer Management"/ Moderator Advances in Cosmetic and Medical Dermatology; Maui, HI
2007	"Laboratory and Imaging Studies: Is There a Role in Melanoma?", "A Hitchhiker's Guide to the Genodermatoses" and "Genetics of SCC, BCC and Melanoma"/ Invited Lecturer Annual Meeting/American Academy of Dermatology, Washington, DC
2007	"Introduction to Pigmented Lesions"/ Invited Lecturer Dermatology Nurses Association Annual Meeting; Washington, DC
2007	"What's New in Melanoma?"/ **Keynote Lecturer**

	"Borderline Tumors"/ Invited Lecturer Dermatology Foundation Clinical Symposia, Amelia Island, FL
2007	"Melanoma in the Molecular Era"/ Department of Dermatology Visiting Professor Indiana University, Indianapolis, IN
2007	"Update on Melanoma Genetics"/ Department of Dermatology Reed **Honorary Lecturer** University of California SF, San Francisco, CA
2007	"A Genetic View of Ultraviolet Radiation and Melanoma"/ Invited Lecturer (ASA Symposium) Society for Investigative Dermatology, Los Angeles, CA
2007	"The NEMO/EDA Pathway and Ectodermal Dysplasias"/ Invited Lecturer American Society for Human Genetics Annual Meeting, San Diego, CA
2007	"Personalizing Melanoma Medicine"/ Department of Dermatology Invited Lecturer Duke University Medical Center; Durham, NC
2008	"Genetics of SCC, BCC and Melanoma"/ Invited Lecturer American Academy of Dermatology Annual Meeting; San Antonio, TX
2008	"Personalizing Melanoma Medicine"/ Invited Lecturer Rockefeller University; New York City, NY
2008	"Personalizing Melanoma Medicine"/ Department of Dermatology Visiting Professor Yale University Medical School, New Haven, CT
2008	"Melanoma in the Molecular Era"/ **Keynote Speaker** 5th International Symposium on Melanoma, New York, NYC
2008	"Top 10 Stories of 2007" and "Medical and Legal-based Evidence in Melanoma"/ Invited Lecturer Advances in Cosmetic and Medical Dermatology; Maui, HI
2008	"Journey to the Center of the Melanoma Nucleus"/ Department of Dermatology Visiting Professor and Brunsting Lecturer Mayo Clinic, Rochester, MN
2008	"Managing Melanoma in Molecular Era"/ Department of Dermatology **Duhring Lecturer** University of Pennsylvania, Philadelphia, PA
2008	"Personalizing Melanoma"/ **A. Edgar Miller, Jr. Memorial Lecturer** Florida Society for Dermatology and Dermatological Surgery; Boca Raton, FL
2008	"Current Controversies & Challenges in Melanoma" and "Update on Genetics and the Skin"/ Invited Lecturer Society for Pediatric Dermatology Meeting, Snowbird, UT
2008	"Genetic Testing and Melanoma" and "Controversies in Genetic Testing for Melanoma"/ Invited Lecturer American Academy of Dermatology Summer Meeting, Chicago, IL
2008	"Melanoma: New Paradigms and Promises"/ Invited Lecturer American Dermatological Association Meeting, Asheville, NC
2008	"The Molecular Basis of Melanoma"/ Department of Dermatology Invited Lecturer University of California, San Diego
2009	"Update on Melanoma"/ Invited Lecturer Winter Clinical Dermatology Conference; Kohala Coast, HI
2009	"Top 10 Stories of 2008" and "Melanoma Update"/ Invited Lecturer Advances in Cosmetic and Medical Dermatology; Maui, HI
2009	"Genetics of SCC, BCC and Melanoma", "Pediatric Melanoma", "Update on Genetics of Skin",

	"Melanoma Review 2009" and "Journal Watching: Pigmentation and Melanoma"/ Invited Lecturer American Academy of Dermatology Annual Meeting, San Francisco, CA
2009	"Melanoma genetics and therapeutics: Moving from point mutations to pathways to patients"/ Invited Lecturer Frontiers in Cancer Prevention Research, AACR, Houston, TX
2009	Genetic Testing and Melanoma", "Case Based Controversies: Pediatric" and "Dermatology Review Course - A Review of Dermatological Advancements"/ Invited Lecturer American Academy of Dermatology Summer Meeting, Boston, MA
2009	"Melanoma in the Molecular Era"/ **Keynote Speaker** 6th International Symposium on Melanoma, New York, NY
2009	"Risk Assessment in Melanoma for NextGen Dermatology"/ **Keynote Speaker** International Meeting of the Society for Melanoma Research, Boston, MA
2009	"Update on Melanoma Genetics"/ **Henry Silver Honorary Lecturer** Dermatologic Society of Greater New York, New York, NY
2010	"New Insights into the Genetics of Moles and Melanomas"/ Department of Dermatology **Martin Luther King, Jr. Visiting Professor** University of Michigan; Ann Arbor, MI
2010	"Top 10 Stories of 2009" and "Genetics for the NextGen Dermatologist"/ Invited Lecturer "Melanoma Update"/ Chair and Moderator Advances in Cosmetic and Medical Dermatology; Maui, HI
2010	"Genetics of Skin Cancer", "Melanoma Review 2010" and "Journal Watching: Pigmentation and Melanoma" American Academy of Dermatology Annual Meeting, Miami, FL
2010	"Update on Melanoma Genetics"/ Invited Lecturer 7th International Symposium on Melanoma, New York, NY
2010	"Advances in Dermatology: Melanoma"/Invited Lecturer American Academy of Dermatology Summer Meeting, Boston, MA
2010	"Melanoma FAQs and BIGs (Best Informed Guesses)" and "Melanoma Photocarcinogenesis"/ Department of Dermatology Visiting Professor University of Utah; Salt Lake City, UT
2010	"Personalized Therapy in Melanoma"/ Invited Lecturer Society for Investigative Dermatology, Atlanta, GA
2010	"Melanoma Genetics for Risk Assessment"/ Invited Lecturer American Society for Clinical Oncology Annual Meeting; Chicago, IL
2010	"Melanoma and Moles: FAQs"/ Department of Dermatology Visiting Professor SUNY Downstate, Brooklyn, NY
2010	"Personalized Melanoma Care through Genetics"/ Department of Dermatology Visiting Professor Northwestern University, Chicago IL
2011	"Personalizing Melanoma Management" and "Management of Borderline Tumors"/ Invited Lecturer Montana Academy of Dermatology Annual Meeting; Big Sky, MT
2011	"Genetics of Skin Cancer" and "Journal Watching: Pigmentation and Melanoma"/ Invited Lecturer American Academy of Dermatology Annual Meeting; New Orleans, LA

2011	"Top 10 Stories of 2010"/ Invited Lecturer "Cases from the Pigmented Lesion Clinic"/ Chair and Moderator Advances in Cosmetic and Medical Dermatology; Maui, HI
2011	"Myths, Metaphors and Melanoma"/ Invited Lecturer American Skin Association; New York, NY
2011	"Clearing the Translational Pipeline"/ Symposium Director Society for Investigative Dermatology Annual Meeting; Phoenix, AZ
2011	"Meet-the-Professor Session: Melanoma Fish n' Chips"/ Session Chair American Society of Clinical Oncology Annual Meeting; Chicago, IL
2011	"Melanoma Therapeutics: Have We Cured the Incurable?"/ Invited Lecturer Pacific Dermatologic Association Annual Meeting; Coeur d'Alene, ID
2012	"Top 10 Stories of 2011"/ Invited Lecturer "Cases from the Pigmented Lesion Clinic"/ Chair and Moderator Advances in Cosmetic and Medical Dermatology; Maui, HI
2012	"What laboratory tests will you order?", "Pathogenesis of BCC, SCC, and Melanoma", "Journal Watching: Pigmentation and Melanoma", "Targeted therapies for melanoma" and "Should I Be Genetically Tested for Melanoma Risk?"/ Invited Lecturer American Academy of Dermatology Annual Meeting; San Diego, CA
2012	"Personalized Cancer Care in the Genomic Era"/ Department of Dermatology Visiting Professor College of Physicians & Surgeons, Columbia University; New York, NY
2012	"How Should We Use Molecular Information in Personalizing Melanoma Care?"/ **Keynote Lecturer** Melanoma and Cutaneous Malignancies; New York, NY
2012	"Personalizing Skin Cancer Care in the Genomic Era,"/ **Proctor & Gamble Lecturer** University of Cincinnati; Cincinnati, OH
2012	"Pathogenesis of Melanoma and Therapeutic Implications"/ Invited Lecturer 2012 Annual Spring Meeting of the Texas Dermatological Society; Dallas, TX
International	
1999	"Genes and Melanoma" and "What's New in Therapy for Melanoma?"/Invited Lecturer "New Therapies Symposium"/ Moderator Mexican Dermatological Society Annual Meeting; Huatulco, Oaxaca
2000	"Cancer Genetics and Cutaneous Melanoma"/ Invited Lecturer International Conference on Melanoma: Melanoma in the Dawn of the New Millennium; Athens, Greece
2001	"Update on the Genetics of Melanoma" and "Recent Findings from the Massachusetts General Hospital Melanoma Center"/Invited Lecturer "Updates on Dermatology"/ Symposium Moderator Mexican Society of Dermatology/Harvard Medical School Annual Joint Meeting; Acapulco, Mexico
2001	"Molecular Genetics of Cutaneous Melanoma"/ Invited Lecturer Spanish Academy of Dermatology and Syphilology Annual Meeting; Barcelona, Spain
2002	"Cutaneous Melanoma: From Point Mutations to Pathways to Patients"/ Department of Dermatology Invited Lecturer Sunnybrook Health Center; Toronto, Canada

2003	"Update on the Genetics of Melanoma" and "Managing Melanoma in the Molecular Era"/ Invited Lecturer Mexican Society of Dermatology/Harvard Medical School Annual Joint Meeting; Cancun, Mexico
2004	"Managing Melanoma-Tomorrow, Tomorrow, Tomorrow"/ Department of Dermatology Invited Lecturer A. Sygrous Hospital for Skin; Athens, Greece
2005	"Basic and Applied Sciences: Melanoma 2005"/ **Plenary Lecturer** 6th World Congress on Melanoma; Vancouver, BC, Canada
2006	"Ultraviolet Radiation and Melanoma Revisited"/ Invited Lecturer Annual GenoMEL Meeting; Genoa, Italy
2006	"Update on p16: from Point Mutations to Patients"/ Invited Lecturer International Perspectives in Melanoma X; Noordwicjk, Netherlands
2006	"Molecular Genetics of Skin Cancer"/ Invited Lecturer European Academy Dermatololgy and Venereology Annual Meeting; Rhodes, Greece
2007	"Melanoma in the Molecular Era"/ **Keynote Speaker** GenoMEL Consortium Annual Meeting; Lund, Sweden
2007	"Melanoma Genetics and Genomics"/ **Plenary Lecturer** International Meeting of the Melanoma Centers; Barcelona, Spain
2007	"Melanoma in the Molecular Era"/ Invited Lecturer Canadian Melanoma Conference Research Frontiers Annual Meeting; Banff, Canada
2008	"Deconstructing and Reconstructing Melanoma Genetics"/ Invited Lecturer "Familial melanoma and melanoma models"/ Session Chair 20th International Pigment Cell Conference and the Fifth International Melanoma Research Congress; Sapporo, Japan
2008	"Models of Germline Prediction"/ Invited Lecturer GenoMEL Consortium Annual Meeting; Paris, France
2009	"Update on Melanoma"/ **Plenary Lecturer** "Tumor Genetics"/ Session Chair "Signaling Cascades"/ Symposium Chair "Hereditary Non-melanoma Skin Cancer Syndromes"/ Invited Lecturer 7th World Congress on Melanoma; Vienna, Austria
2009	"The Genetics of Moles and How it Relates to Melanomas"/ Invited Lecturer "Managing Melanocytic Nevi"/ Session Co-Chair European Academy of Dermatology and Venereology Annual Meeting; Berlin, Germany
2010	Personalized Medicine for Melanoma", "Management of Borderline Lesions" and "Management Issues in Melanoma"/ Invited Lecturer "Managing Melanocytic Nevi"/ Session Chair Latin America Dermatology Congress (RADLA) Annual Meeting; Buenos Aires, Argentina
2010	"Personalizing Melanoma Medicine in the Molecular Era"/ **Keynote Speaker** European Academy of Dermato-Oncology (EADO) Annual Meeting; Athens, Greece
2010	"Melanoma: Genes or Environment?"/ **Plenary Lecturer** German Congress on Skin Cancer; Kiel, Germany
2010	"Melanoma Biology Unmasked"/ **Keynote Speaker** International Meeting of the Society for Melanoma Research; Sydney, Australia
2011	"Update on Melanoma Genetics" and "Genetic Risk Assessment in Melanoma"/ Invited Lecturer

	"Hereditary Cancer Syndromes"/ Session Chair World Congress of Dermatology; Seoul, Korea
2011	"Therapeutically relevant targets of cutaneous tumors"/ **Plenary Lecturer** European Academy of Dermato-Oncology (EADO) Annual Meeting; Nantes, France
2011	"Melanoma and Genetics"/ **Plenary Lecturer** 91st Meeting of the British Association of Dermatologists; London, England
2011	"Molecularly-targeted Therapies in Cancer and the Dermatologist"/ **Plenary Lecturer** European Academy of Dermatology and Venereology Annual Meeting; Lisbon, Portugal

REPORT OF CLINICAL ACTIVITIES AND INNOVATIONS

Current Licensure and Certification

Year	Type of Licensure
1993-present	Diplomate, National Board of Medical Examiners
1997-present	Massachusetts Medical License
1997-present	Diplomate, American Board of Dermatology

Practice Activities

Year	Type of Activity	Name and Location	Level of Activity
1999-	Ambulatory Care	General Dermatology Melanoma and Pigmented Lesion Center, Massachusetts General Hospital	1 day per week (2 sessions)

Clinical Innovations

Name of Clinical Innovation	Description
Constructed a lexicon of medical education objectives for the American Academy of Dermatology	**Dermatology Education.** I chaired Task Force to create the first "library" of educational objectives for the Basic Science Continuing Medical Education (CME) curriculum for the AAD. I now Chair the overall Core Curriculum Committee and am working towards integrating all CME objectives (eg. Basic Science, Medical Dermatology, Surgical Dermatology) into one large virtual "library" so that practice gaps, a crucial metric of the ACCME, can be easily identified, targeted, closed and measured for success. Practically speaking, our goal will be create for the first time in our field, a searchable database of CME objectives for anyone designing a CME curriculum. For instance, if a speaker is designing a clinical melanoma CME, the "library" will house specific gap-oriented objectives (eg. "Describe the surgical margins for melanoma") that can be used to create an ACCME-meaningful curriculum.
Demonstrated the lack of utility for routine chest x-rays in asymptomatic patients	**Melanoma Management.** As a junior attending in the PLC, it was standard of practice to obtain annual CXRs on all patients regardless of their relapse risk. At that time, there were emerging studies showing a high false positive rate with CXRs but little evidence regarding the impact of CXR on melanoma survival. I worked with the MGH Radiology department and determined that surveillance CXRs did not improve patient outcome and we suggested in our paper that

	routine CXRs in asymptomatic patients may in fact be unnecessary (PMID: 14732662). Nearly ten years later, the American Academy of Dermatology formally eliminated annual CXRs from their official guidelines of melanoma practice (PMID: 21868127).
Designed and validated a Bayes-Mendel model for estimating *CDKN2A* carrier probability.	**Melanoma Management.** Genetic risk counseling for melanoma had been challenged by the lack of a rigorous algorithm to estimate *CDKN2A* carrier probability. About a decade ago, this barrier was overcome in breast cancer with the formulation of BRCAPRO- a Mendelian mathematical model to calculate the likelihood of BRCA1/2 carriage among patients. Through a 5 year grant from the American Cancer Society, our team developed a Mendelian model for melanoma (designated MelaPRO; *PMID: 20068151*) so cancer risk counselors can better inform their patients of *CDKN2A* carrier probability. MelaPRO is grounded in the BRCAPRO architecture but takes on more sophisticated approaches since it incorporates exposure information. MelaPRO has been incorporated into the standard genetic counseling package CaGENE (http://www4.utsouthwestern.edu/breasthealth/cagene/)
Delineated the outcome of patients with atypical Spitz tumors	**Melanoma Management.** Atypical Spitz tumors (ASTs) are pigmented lesions that can be pathologically indistinguishable from melanoma, that are fraught will clinically uncertain management approaches and that represent one of the most common areas for litigation among dermatopathologists. Despite this picture of histologic aggression, we were able to show that patients with ASTs exhibited excellent survival outcomes (PMID: 21680758) and to articulate a real rationale basis for the management of ASTs in set of CME articles (PMID: 22082838, 22082839) suggesting that over-aggressive surgical approaches are not needed for this class of tumors.
Established guidelines of melanoma management for the American Academy of Dermatology	**Melanoma Management.** In 2011, I joined a committee of colleagues in order to define best-practice guidelines for dermatologists on a specialty-wide basis. I was one of 3 lead physicians charged with synthesizing the literature and creating recommendations. My specific areas included (i) biopsy techniques, (ii) surgical margins for primary melanoma and (iii) recommendations for sentinel lymph node biopsy. Together with the AAD Guidelines for Melanoma Management Committee, we published these recommendations in 2012 (PMID: 21868127).
Codified features of an cutaneous-ocular melanoma syndrome associated with germline BAP1 mutations	**Melanoma Management.** Although most melanoma families are characterized by multiple cutaneous melanomas, some pedigrees exhibit a mixed cutaneous/ocular melanoma phenotype. We recently identified several families with cutaneous/ocular melanoma, atypical melanocytic proliferations and other internal neoplasms- a complex we termed COMMON syndrome. Genetically, a significant percentage of these families harbor germline BAP1 mutations (manuscript in press). Carriers are also at increased risk for metastatic and fatal ocular melanoma thereby documenting the first instance of germline governance of melanoma outcome beyond risk. We propose that patients with COMMON syndrome be potentially screened for BAP1 mutations and more intensively surveyed for ocular melanoma.
Delineated a new molecular grading system for melanoma pathology	**Melanoma Management.** Although the pathologic features that are associated with high risk melanomas have been widely described over the past decade, the molecular underpinnings of tumor aggression had not been well studied. In collaboration with Dr. Goran Jonsson at Lund University, we characterized

	"high" and "low" molecular grades of melanoma (PMID:22675174) using a approach called whole genome DASL. This was the most substantial analysis of primary archival melanoma specimens and will ideally lead to better prognostication using molecular markers. More important, new insights into crucial pathways which govern melanoma aggression may eventuate into more optimal prevention strategies.
Described new therapeutic approaches based on genetic discoveries.	**Melanoma Therapeutics.** A major part of my scientific focus has been on translating basic genetic observations into potentially novel therapeutic strategies. My first line of inquiry culminated in the observation that BRAF activation cooperates with PTEN loss (PMID: 15009714; 14576666; 10766161; 9692547) in melanomas thereby suggesting that dual BRAF/PI3K pathway inhibition may be a viable drug combination; there is now in fact a trial with PLX4032/BKM120, which is precisely a dual BRAF/PI3K inhibition regimen (NCT01512251). More recently, we have also demonstrated significant synergy between MAPK inhibition and Hdm2 antagonism (PMID: 21993556) and the possibility of targeting EphA2 in melanoma (PMID: 21666714). As a dermatologist, I feel that it is possible for us to suggest novel targets of suppression in melanoma even though my focus is on early disease.
Introduced genetic risk assessment into the MGH Melanoma and Pigmented Lesion Center (PLC)	**Practice Enhancement.** As the Director of the MGH Melanoma Genetics Program, I expanded the capabilities of the PLC by implementing a genetic counseling service and research component into the PLC. The MGH PLC remains one of a few multidisciplinary melanoma clinics in the country which offers genetic risk counseling and houses the Harvard Hereditary Melanoma Registry which is the one of the largest familial melanoma resources in the world with phenotype and banked DNA from over 300 melanoma pedigrees.
Created an urgent access track in the PLC	**Practice Enhancement.** Most melanoma clinics around the country, including the MGH PLC, created appointment space for evaluation of new patients and routine follow up of patients who have already had melanoma. However, there is now significant evidence that melanoma recurrences were detected by patients at home as well as by physicians in healthcare facilities. We thus hypothesized that an urgent access component to the PLC may in fact allow vigilant patients greater access (usually within a week) to evaluation and thus earlier detection of melanoma lesions. We established the urgent access track in the PLC and studied the effectiveness over a two-year period. We found that the urgent access track diagnosed 4-times more primary melanomas and 25-times more metastatic lesions than the routine surveillance (PMID: 21453985), which is exactly what we had anticipated. We thus promote the integration of urgent access capabilities within all melanoma centers.
Integrated body diagrams into Partners LMR	**Practice Enhancement.** As dermatology transitioned to the Partners LMR, I was called upon to work with the IT unit to develop body diagram functionalities within the LMR system. After about 2 years of planning and execution, the current body diagram system is an integral part of the electronic medical record keeping.

REPORT OF EDUCATION OF PATIENTS AND SERVICE TO THE COMMUNITY

Activities

"No activities below were sponsored by outside entities"

Year	Organization or institution / Role
1999 - current	Melanoma Foundation of New England/ Medical Advisory Board Steer the non-profit organization in terms of medical priorities for philanthropic funding and projects
2003 - current	Children's Melanoma Prevention Foundation/ Board of Directors Provide effective sun protection education and strategies for youth
2003	The Wellness Community-Massachusetts Medical Society/Waltham, MA Invited Lecturer: "Clinical Features of Early Melanomas"
2008	"Eliminating the Melanoma Epidemic"/ Keynote Speaker Richard Kann Melanoma Foundation, West Palm Beach, FL

Educational Material for Patients and the Lay Community

Year	Title	Type of contribution	Citation
2007 - current	MGH Melanoma Minute	Author	Patient newsletter

Recognition

Year	Name of award/recognition	Organization conferring recognition
2010, 2011	Top Doctors of Boston	Boston Magazine

REPORT OF SCHOLARSHIP

Peer reviewed publications in print or other media

Research Investigations	
1.	Woodstock L, **Tsao H**. Influence of ammonia vapors on the dry seeds of soybean, corn and peanuts. Crop Science, 1986; 26: 631-634.
2.	**Tsao H**, Aletta JM, Greene LA. Nerve growth factor and fibroblast growth factor selectively activate a protein kinase that phosphorylates high molecular weight microtubule-associated proteins. J Biol Chem, 1990; 265: 15471-15480.
3.	**Tsao H**, Greene LA. The role of macromolecular synthesis and phosphorylation in the regulation of a protein kinase activity transiently stimulated by nerve growth factor. J Biol Chem, 1991; 266: 12981-12988.
4.	**Tsao H***, Loeb DM*, Cobb MH, Greene LA. NGF and other growth factors induce an association between ERK1 and the NGF receptor, gp140prototrk. Neuron, 1992; 9: 1053-1065. *equal first authors
5.	**Tsao H**, Cosimi AB, Sober AJ. Ultra-late recurrence (15 years or longer) of cutaneous melanoma. Cancer, 1997; 79: 2361-2370.
6.	Haluska FG, Thiele C, Goldstein A, **Tsao H**, Benoit EP, Housman D. Lack of phospholipase A2 mutations in neuroblastoma, melanoma and colon-cancer cell lines. Int J Cancer, 1997; 72: 337-339.
7.	**Tsao H**, Benoit E, Sober AJ, Thiele C, Haluska FG. Novel mutations in the *p16/CDKN2A* binding region of the cyclin-dependent kinase-4 gene. Cancer Res, 1998; 58: 109-113.

8. **Tsao H**, Rogers GS, Sober AJ. An estimate of the annual direct cost of treating cutaneous melanoma. J Am Acad Dermatol, 1998; 38: 669-680.

9. **Tsao H**, Zhang X, Benoit E, Haluska FG. Identification of *PTEN/MMAC1* alterations in uncultured melanomas and melanoma cell lines. Oncogene, 1998; 16: 3397-3402.

10. **Tsao H**, Zhang X, Majewski P, Haluska FG. Mutational and expression analysis of the *p73* gene in melanoma cell lines. Cancer Res, 1999; 59: 172-174.

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