CURRICULUM VITAE

NAME: Jean Y. Tang, M.D., Ph.D.

POSITION: Assistant Professor of Dermatology, Stanford University

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EDUCATION:

1995 B.S. Biochemistry, University of California, Berkeley; Berkeley, CA
2003 M.D. Medical Scientist Training Program, Stanford University; Palo Alto, CA
2003 Ph.D. Biophysics, Stanford University; Palo Alto, CA

RESIDENCY AND FELLOWSHIP TRAINING:

2003-04 Internship, Transitional Program, Santa Clara Valley Hospital; San Jose, CA
2004-07 Residency, Dermatology, Stanford University; Stanford, CA
2006-09 Fellowship, CTSA K12 Scholar Program, UC San Francisco, San Francisco, CA

LICENSURE AND CERTIFICATION:

2004 California Medical Board
2007 American Board of Dermatology

HONORS AND AWARDS:

1991-95 University of California Chancellor's Scholarship
1991-95 University of California Berkeley Alumni Scholarship
1991-95 Phi Beta Kappa, University of California Berkeley; Berkeley, CA
1993-95 University of California President's Undergraduate Research Fellowship
1994 Howard Hughes Medical Institute Biology Fellowship
1995 Grace Fugimori Award for Best Senior Research Thesis
1995-03 NIH Medical Scientist Training Program Scholarship
1996-98 Ruth G. White PEO Medical Scholarship, Stanford
1996-98 Asia Pacific Scholars Fellowship, Stanford
1998-02 Paul and Daisy Soros Fellowship for New Americans
1999-00 Katherine McCormick Research Travel Fellowship
2004 Transitional Intern of the Year, Santa Clara Valley Hospital
2006-09 Advanced Training in Clinical Research Certificate Program, UCSF
2006-09 KL2 Clinical and Translational Science Institute Career, NIH
2007-09 Cancer Research and Prevention Foundation Award
2009-10 American Skin Association Health Research Policy Award
2009-present K23 Clinical Scientist Career Development Award (NIAMS)
2011-present Damon Runyon Clinical Investigator Award

RESEARCH PROJECTS AND FUNDING:

Past:

07/01/06-01/01/09 NIH/KL2 Clinical and Translational Science Institute Award

	KL2 RR024130 from NCRR (PI: Mike McCune) Mentored Career Development Award for Clinical Research Role: Fellow
01/01/07-01/01/09	Cancer Research and Prevention Foundation Award Role: PI
01/01/09-12/31/10	American Skin Association Faculty Award Measuring serum vitamin D levels in non-melanoma skin cancer patients Role: PI
01/01/10-12/31/10	SPARK (Stanford Intramural) Translational Pilot Grant Itraconazole for BCC tumors Role: PI
09/01/10-08/31/11	Stanford Cancer Center Population Science Award Randomized controlled clinical trial of 400 IU vitamin D for prevention of non-melanoma and melanoma skin cancers in post-menopausal women in the Women's Health Initiative Role: PI

Present/Pending:

07/08/09-06/30/13	NIH/K23 Mentored Career Development Award for Clinical Research NIAMS 1K23AR056736-01 Vitamin D for prevention of BCCs in mice and humans Role: PI
10/01/10-09/30/15	NIH/NHLBI (PI: Marcia Stefanick) HHSN268201100003C Women's Health Initiative Extension 2010-2015 Role: Co-Investigator
07/01/11-06/30/14	Damon Runyon Clinical Investigator Award Determining the mechanism of acquired drug resistance to Hedgehog Pathway Inhibitors in BCC tumors Role: PI
06/01/12-05/31/17 (pending)	National Institutes of Health (PI: Anthony Oro) 2R01AR052785 BEG4/MIM Function in Epithelial Neoplasia Role: Co-Investigator

Patents:

06/04	U.S. Provisional Patent	Cancer Prediction and Treatment by Transcriptional Profiling. No. 10/686,322
04/08	U.S. Provisional Patent	Transgenic Mouse and Use in Methods to Identify Anti-Cancer Drugs for Cancers Having Aberrant Hedgehog Signaling. No. 61/044,428
09/11	U.S. Provisional Patent	Topical Itraconazole Formulations and Uses Thereof. No. 61/532,900

EMPLOYMENT:

Academic Appointments

2007-08	Clinical Instructor, Department of Dermatology, University of California San Francisco
2008-09	Assistant Clinical Professor of Dermatology, University of California San Francisco
2009-present	Assistant Professor of Dermatology, Stanford University Medical Center

PUBLIC AND PROFESSIONAL SERVICE:

Service to Professional Organizations

Membership
American Academy of Dermatology
Society of Investigative Dermatology
American Association of Cancer Research

Committee Service

2007	2008 National CTSA KL2 and K12 Clinical Research Scholars Annual Meeting, University of California San Francisco, KL2 Scholar representative. March 25-26, 2008
2008-09	Committee Leader, CTSA KL2 Genetics and Biomarkers Interest Group, University of California San Francisco

Leadership Role

2011-12	Secretary, American Dermato-Epidemiology Network
2012	Chair, "Targeted Therapy for the Treatment of Basal Cell Carcinoma and Melanoma: Implications for Patients and Healthcare Practitioners," American Academy of Dermatology. March 18, 2012

Editorial Service

2012	Associate Editor, Clinical Trials, Journal of Investigative Dermatology

Public Service

2003-2007	Volunteer, Good Samaritan International with Dr. James Cleaver, UCSF Visited Guatemalan children with Xeroderma Pigmentosum and helped to identify their mutation. San Francisco Chronicle, November 2004
2007-present	Medical Science Advisory Board Member, Pachonychia Congenita Society
2007-present	Medical Science Advisory Board Member, Basal Cell Carcinoma Nevus Network
2009-present	Member, Women's Dermatology Society

MENTORING (Doctoral, pre-doctoral, undergraduate, and high school students mentored)

Dates	Names	Program/School	Current Position
08/07-07/10	Elana Shpall, BA	Research Assistant, UCSF, Dept. of Epidemiology	Medical student, UCSF-UCB
06/08-07/09	Tony Xiao, MD, PhD	Post-doctoral fellow, Children's Hospital Oakland Research Institute	Post-doctoral fellow, University of Wisconsin
06/08-08/10	Angela Wu, BA	Research Assistant, UCSF, Dept. of Epidemiology	Medical student, University of Minnesota

07/10-12/10	Kalyani Chandra, MD	Narayana Medical College, India	Internal Medicine Resident, University of Illinois
06/09-01/12	Elizabeth Keiser, BA	UC San Diego	Medical student
06/09-01/12	Eleni Linos, MD, PhD	Stanford University	Assistant Professor, UC San Francisco
09/10-01/12	Katrina Spaunhurst, BA	Univ. of Southern California	Dermatology resident, Case Western
09/10-01/12	Daniel Kim	Harvard University	Undergraduate student
06/10-present	Anita Chanana	UC Berkeley	Undergraduate student, thesis advisor
1/11-present	Melika Rezae	UC Berkeley	Undergraduate student, thesis advisor
06/11-present	Ashley Wysong, MD, MS	Stanford University	Dermatology resident
09/11-present	Michael Henderson	Stanford University	Medical student
09/11-present	David Kim	Stanford University	Medical student
09/11-present	Eric Anderson	Stanford University	Medical student

BIBLIOGRAPHY:

Peer-reviewed Articles

1. McCall MR, **Tang JY**, Bielicki JK, Forte TM. Inhibition of lecithin-cholesterol acyltransferase and modification of HDL apolipoproteins by aldehydes. *Arteriosclerosis, Thrombosis*, *and Vascular Biology*. October 1995; 15(10):1599-606. PMID: 7583533.
2. **Tang JY,** Hwang BJ, Ford JM, Hanawalt PC, Chu G. Xeroderma pigmentosum p48 gene enhances global genomic repair and suppresses UV-induced mutagenesis. *Molecular Cell*. April 2000; 5(4):737-44. PMID: 10882109. PMCID: PMC2894271.
3. **Tang JY**, Chu, G. Review: Xeroderma pigmentosum complementation group E and UV-damaged DNA-binding protein. *DNA Repair.* August 2002; 1(8):601-16. PMID: 12509284. PMCID: PMC2894533.
4. Cong F, **Tang JY**, Hwang BJ, Vuong BQ, Chu G, Goff SP. Interaction between UV-damaged DNA binding activity proteins and the c-Abl tyrosine kinase. *Journal of Biological Chemistry*. September 2002; 277(38):34870-8. Epub July 2002. PMID: 12107171. PMCID: PMC2894263.
5. Rieger KE, Hong WJ, Tusher VG, **Tang JY,** Tibshirani R, Chu G. Toxicity from radiation therapy associated with abnormal transcriptional responses to DNA damage. *The Proceedings of the National Academy of Sciences USA*. April 2004; 101(17):6635-40. Epub April 2004. PMID: 15096622. PMCID: PMC404097.
6. Cleaver JE, Feeney L, **Tang JY**, Tuttle P. Xeroderma pigmentosum group C in an isolated region of Guatemala. *Journal of Investigative Dermatology*. February 2007; 127(2):493-6. Epub September 2006. PMID: 16990803. PMCID: PMC3031115.
7. **Tang JY**, So PL, Epstein EH. Novel Hedgehog pathway targets against basal cell carcinoma, *Toxicology and Applied Pharmacology*. November 2007; 224(3):257-64. Epub December 2006. PMID: 17276471. PMCID: PMC2719777.
8. Asgari MM, **Tang JY**, Epstein EH, Chren MM, Warton EM, Go A, Quesenberry CP, Go AS, Friedman GD. Statin use and risk of basal cell carcinoma. *Journal of the American Academy of Dermatology.* July 2009; 61(1):66-72. Epub May 2009. PMID: 19464071. PMCID: PMC2700205.
9. **Tang JY,** Aszterbaum M, Athar M, Barsanti F, Cappola C, Estevez N, Hebert J, Hwang J, Khaimskiy Y, Kim A, Lu Y, So PL, Tang X, Kohn MA, McCulloch CE, Kopelovich L, Bickers DR, Epstein EH. Basal cell carcinoma chemoprevention with nonsteroidal anti-inflammatory drugs in

genetically predisposed PTCH1+/- humans and mice. *Cancer Prevention Research.* January 2010; 3(1):25-34. PMID: 20051370. PMCID: PMC2894531.

10. **Tang JY**, Parimi N, Wu A, Boscardin WJ, Shikany JM, Chren MM, Cummings SR, Epstein EH, Bauer DC. Inverse association between serum 25(OH) vitamin D levels and non-melanoma skin cancer in elderly men. *Cancer Causes Control*. March 2010; 21(3):387-91. PMID: 19921445. PMCID: PMC2835729.
11. Kim J, **Tang JY**, Gong R, Kim J, Lee JJ, Clemons KV, Chong CR, Chang KS, Fereshteh M, Gardner D, Reya T, Liu JO, Epstein EH, Stevens DA, Beachy PA. Itraconazole, a commonly used antifungal that inhibits Hedgehog pathway activity and cancer growth. *Cancer Cell.* April 2010; 17(4):388-99. PMID: 20385363. NIHMSID: 212707.
12. Asgari MM, **Tang JY**, Warton ME, Chren MM, Quesenberry CP, Bikle D, Horst RL, Orentreich N, Vogelman JH, Friedman GD. Association of prediagnostic serum vitamin D levels with the development of basal cell carcinoma. *Journal of Investigative Dermatology*. May 2010; 130(5):1438-43. Epub December 2009. PMID: 20043012. PMCID: PMC2855394.
13. So PL, **Tang JY**, Epstein EH. Novel investigational drugs for basal cell carcinoma. *Expert Opinion on Investigational Drugs.* September 2010; 19(9):1099-112. PMID: 20662553. NIHMSID: 298539.
14. **Tang JY**, Wu A, Linos E, Parimi N, Lee W, Aszterbaum M, Asgari MM, Bickers DR, Epstein EH. High prevalence of vitamin D deficiency in patients with basal cell nevus syndrome. *Archives of Dermatology.* October 2010; 146(10):1105-10. PMID: 20956641. NIHMSID: 298538.
15. Chang AL, Fu T, Amir O, **Tang JY**. Association of facial skin aging and vitamin D levels in middle-aged white women. *Cancer Causes Control.* December 2010; 21(12):2315-6. Epub September 2010. PMID: 20882333. PMCID: PMC3042365.
16. Fu T, Leachman SA, Wilson NJ, Smith FJ, Schwartz ME, **Tang JY**. Genotype-phenotype correlations among pachyonychia congenita patients with K16 mutations. *Journal of Investigative Dermatology.* May 2011; 131(5):1025-8. Epub December 2010. PMID: 21160496. NIHMSID: 298540.
17. **Tang JY**, Xiao TZ, Chang KS, Shpall E, Wu A, So PL, Hebert J, Bikle D, Epstein EH. Vitamin D3 inhibits hedgehog signaling and proliferation in murine basal cell carcinomas. *Cancer Prevention Research*. May 2011; 4(5):744-51. Epub March 2011.PMID: 21436386. PMCID: PMC3088781.
18. Tang T, **Tang JY**, Li D, Reich M, Callahan CA, Fu L, Yauch RL, Wong F, Kotkow K, Chang KS, Shpall E, Wu A, Rubin LL, Marsters JC, Epstein EH, Caro I, de Sauvage FJ. Targeting superficial or nodular basal cell carcinoma with topically formulated small molecule inhibitor of smoothened. *Clinical Cancer Research.* May 2011; 17(10):3378-87. PMID: 21558397. PMCID: PMC3113453. NIHMSID: 298537.
19. Linos E, Keiser E, Fu T, Colditz G, Chen S, **Tang JY**. Hat, shade, long sleeves, or sunscreen? Rethinking US sun protection messages based on their relative effectiveness. *Cancer Causes Control*. July 2011; 22(7):1067-71. Epub June 2011. PMID: 21637987.
20. **Tang JY**, Fu T, Leblanc E, Manson JE, Feldman D, Linos E, Vitolins MZ, Zeitouni NC, Larson J, Stefanick ML. Calcium plus vitamin D supplementation and the risk of nonmelanoma and melanoma skin cancer: post hoc analyses of the women's health initiative randomized controlled trial. *Journal* of *Clinical Oncology.* August 2011; 29(22):3078-84. PMID: 21709199. PMCID: PMC3157967.
21. **Tang JY**, Spaunhurst KM, Chlebowski RT, Wactawski-Wende J, Keiser E, Thomas F, Anderson ML, Zeitouni NC, Larson JC, Stefanick ML. Menopausal hormone therapy and risks of melanoma and nonmelanoma skin cancers: women's health initiative randomized trials. *Journal of the National Cancer Institute.* October 2011; 103(19):1469-75. PMID: 21878677. PMCID: PMC3186783.
22. Fu T, Zwerner J, Kim J, **Tang JY**. Subcutaneous nodules in an elderly patient. Necrobiotic xanthogranuloma. Archives of Dermatology. October 2011; 147(10):1215-20. PMID: 22006142.
23. Bruckner AL, Bedocs LA, Keiser E, **Tang JY**, Doernbrack C, Arbuckle HA, Berman S, Kent K, Bachrach LK. Correlates of low bone mass in children with generalized forms of epidermolysis

bullosa. *Journal of the American Academy of Dermatology*. November 2011; 65(5):1001-9. PMID: 21550693.

24. Linos E, Keiser E, Kanzler M, Sainani KL, Lee W, Vittinghoff E, Chren MM, **Tang JY**. Sun protective behaviors and vitamin D levels in the US population: NHANES 2003-2006. *Cancer Causes Control*. January 2012; 23(1):133-40. Epub November 2011. PMID: 22045154.
25. Keiser E, Linos E, Kanzler M, Lee W, Sainani KL, **Tang JY**. Reliability and prevalence of digital image skin types in the United States: results from National Health and Nutrition Examination Survey 2003-2004. *Journal of the American Academy of Dermatology*. January 2012; 66(1):163-5. PMID: 22177642.
26. Spaunhurst KM, Hogendorf AM, Smith FJ, Lingala B, Schwartz ME, Cywinska-Bernas A, Zeman KJ, **Tang JY**. Pachyonychia congenita patients with mutations in KRT6A have more extensive disease compared with patients who have mutations in KRT16. *The British Journal of Dermatology*. April 2012; 166(4):875-8. Epub November 2011. PMID: 22098151.
27. **Tang JY**, Mackay-Wiggan JM, Aszterbaum M, Yauch RL, Lindgren J, Chang K, Coppola C, Chanana AM, Marji J, Bickers DR, Epstein EH. Inhibiting the hedgehog pathway in patients with the basal-cell nevus syndrome. *The New England Journal of Medicine*. June 2012; 366(23):2180-8. PMID: 22670904.
28. Gamba C, Wysong A, Million L, Aasi S, Kim J, **Tang JY**. Intense tanning bed exposure associated with aggressive basal cell carcinoma and metastasis. *Journal of Clinical Oncology.* (in press)
29. **Tang JY**, Fu T, Lau C, Oh DH, Bikle DD, Asgari MM. Vitamin D in Cutaneous Carcinogenesis. *Journal of the American Academy of Dermatology.* (in press)
30. Nuccitelli R, Tran K, Athos B, Kreis M, Nuccitelli P, Chang KS, Epstein EH, **Tang JY**. Nanoelectroablation Therapy for Murine Basal Cell Carcinoma. *Biochemical and Biophysical Research Communications.* (in press)

Non-Peer-reviewed Articles

1. **Tang JY**, Chu G. The Role of the UV-Damaged DNA Binding Protein in DNA Repair and Mutagenesis, Doctorate Thesis. Stanford University Publications. June 2003.
2. **Tang JY**, Epstein EH. Medical management of advanced or metastatic basal cell carcinomas. AccessMedicine from McGraw-Hill. 2010. http://www.medscape.com/viewarticle/720380
3. **Tang JY**. Elucidating the role of molecular signaling pathways in the tumorigenesis of basal cell carcinoma. Seminars in Cutaneous Medicine and Surgery. December 2011; 30 (4 Suppl):S6-9. PMID: 22177103.
4. **Tang JY**, Marqhoob AA. Emerging treatments and signaling pathway inhibitors. Seminars in Cutaneous Medicine and Surgery. December 2011; 30 (4 Suppl):S14-8. PMID: 22177102.

Book Chapters (3 total)

1. **Tang JY**, Epstein EH. "Medical Management of Advanced or Metastatic Basal Cell Carcinomas" (Update). Wolff K, Goldsmith LA, Katz SI, Gilchrest B, Paller AS, Leffell DJ: Fitzpatrick's Dermatology in General Medicine, 7th Edition. 2010.
2. **Tang JY**, Oro AE. “Chapter 116 Basal Cell Nevus Syndrome,” Wolff K, Goldsmith LA, Katz SI, Gilchrest B, Paller AS, Leffell DJ: Fitzpatrick's Dermatology in General Medicine, 7th Edition.
3. **Tang JY**, Epstein, EH. “The Role of Vitamin D in Skin Cancer,” Feldman D, Pike JW, Glorieux FH, Vitamin D, 3rd Edition.

ABSTRACTS PRESENTED AT CONFERENCES:

1. Fu T, Keiser E, Linos E, Kanzler M, Lee W, Sainani KL, Lane A, **Tang JY**. Association of IgE levels and eczema in the US population: Results from NHANES 2005-2006. *Journal of Investigative Dermatology, epub 2010.* (oral)

2. Swetter S, Gamba C, Stefanick M, Spaunhurst K, Kubo J, Desai M, Asgari M, Sinha A, **Tang JY**. Aspirin is associated with lower melanoma risk in a cohort of postmenopausal women in the Women's Health Initiative (WHI). Society of Investigative Dermatology Annual Meeting, Raleigh, NC, May 2013. (selected for oral & poster presentation)
3. Gamba C, Stefanick M, Shikany J, Larson J, Linos E, Sims S, Marshall J, Van Horn L, Zeitouni N, **Tang JY**. Low-fat dietary pattern and skin cancer risk: The Women's Health Initiative (WHI) randomized controlled dietary modification trial. Society of Investigative Dermatology Annual Meeting, Raleigh, NC, May 2013. (selected for oral & poster presentation)
4. Gamba C, Stefanick M, Shikany J, Larson J, Linos E, Sims S, Marshall J, Van Horn L, Zeitouni N, **Tang JY**. Low-fat dietary pattern and skin cancer risk: the WHI randomized controlled dietary modification trial. American Academy of Dermatology Annual Meeting Late Breaking Session, San Diego, CA, March 2013. (selected for oral presentation)
5. Kim D, Kim J , Spaunhurst K, Montoya J, Khodosh R, Chandra K, Fu T, Epstein EH, Molgo M, Beachy P, **Tang JY**. An open-label, exploratory Phase II study of oral Itraconazole for the treatment of basal cell carcinoma. Presented at the American Association for Cancer Research Meeting, Late Breaking Abstracts, Chicago, IL, April 2012. (poster)

INVITED PRESENTATIONS:

06/2010 Invited speaker, "Molecular pathways in Basal Cell Carcinomas and clinical trials." American Society of Clinical Oncology Annual Meeting, Chicago, IL

08/2010 Invited speaker, "Translational Approaches to the Treatment of Basal Cell Carcinomas" Pacific Dermatologic Association Annual Meeting, Pasadena, CA

04/2010 Invited speaker, "Hedgehog Signaling Pathway: Biology and Therapeutics." American Association for Cancer Research 102nd Meeting, Orlando, FL

06/2011 Invited speaker, "New Treatments for Non-melanoma Skin Cancers." Stanford Medicine Outpatient Center, Redwood City, CA

07/2011 Invited speaker, "Oral Cutaneous Cancer Therapy." Pacific Northwest Dermatological 78th Annual Scientific Conference, Vancouver, Canada

09/2011 Invited speaker, "Translational-Clinical Research Based on Signaling Studies." Stanford Cancer Institute's 5th Annual Comprehensive Cancer Research Training Program, Menlo Park, CA

11/2011 Invited speaker, "Bench to Bedside: New Developments in Treating BCEs." 12th Las Vegas Dermatology Seminar, Las Vegas, NV

02/2012 Invited speaker, "Basal Cell Study: Finding the Achilles Heel in Cancer." Oncology Clinical Research Forum, Stanford, CA

02/2012 Invited speaker, "New Emerging Treatments for Advanced BCC and SCC." 36th Hawaii Dermatology Seminar, Waikoloa, HI

02/2012 Invited speaker, "Do Sunscreens Prevent Melanoma & Update on Vitamin D Controversy." 36th Hawaii Dermatology Seminar, Waikoloa, HI

03/2012 Invited speaker and chair, "Targeted Therapy for the Treatment of Basal Cell Carcinoma and Melanoma: Implications for Patients and Healthcare Practitioners." American Academy of Dermatology 70th Annual Meeting, San Diego, CA

06/2012 Invited speaker, "Advanced Basal Cell Carcinoma: Implications for Control and Treatment through the Hedgehog Pathway." American Society of Clinical Oncology Annual Meeting, Chicago, IL