

CURRICULUM VITAE

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Education:

1994 – St. John’s School, Houston, TX
1998 – BS, Biological Sciences with Honors, Stanford University, Stanford, CA
2004 – PhD, Cell Biology and Genetics, Rockefeller University, New York, NY
2006 – MD, Weill Medical College of Cornell University, New York, NY
Cornell/Rockefeller/Sloan-Kettering MSTP Student

Licensures:

Texas, M9728, 4/11/2008 to 2/28/2020

Board Certification:

Dermatology, 10/5/2010

Employment and Training:

1994 Research with S.E. Ullrich, UT-MD Anderson Cancer Center, Houston.
1994-1996 Research with W. Margolin, UT-Houston Medical School, Houston.
1994-1998 Undergraduate research with Dr. S. Long, Stanford University, Stanford.
2000-2006 Thesis research with Dr. T. de Lange, The Rockefeller University, New York. “Functional analyses of hTel2 and TRF2^{AB}: Insights into the role of a new DNA damage pathway and homologous recombination in mammalian telomere function.” Thesis defended on September 20, 2004
2006-2007 Intern, Internal Medicine, Parkland Hospital, UT Southwestern, Dallas, TX
2007-2010 Resident, Dermatology, UT Southwestern, Dallas, TX
2009-2012 Postdoctoral research fellowship with Dr. B. Levine, UT Southwestern
2010-2011 Assistant Instructor, Dermatology, UT Southwestern, Dallas, TX
2011-2012 Instructor, Dermatology, UT Southwestern, Dallas, TX
2012-2019 Assistant Professor, Dermatology, UT Southwestern, Dallas, TX
2019- Associate Professor, Dermatology, UT Southwestern, Dallas, TX

Selected Honors and Awards:

1994 Stanford University President’s Scholar
1997 Howard Hughes Summer Research Fellowship
1998 Howard Hughes and NSF Pre-Doctoral Research Fellowships (declined)
2003 Irving Weinstein Symposium on Cancer, 1st prize
2004 EMBO Workshop Travel Award
2005 Sume Koide Fellowship - Keystone Symposium on Melanoma

2009	UT Southwestern Physician Scientist Training Program Fellow
2009	Texas Dermatological Society, Oral presentation, 1 st prize
2010	Vitals Compassionate Doctor Recognition
2011	Montagna Symposium - Eugene M. Farber Travel Award
2012	Burroughs Wellcome Fund – CAMS Awardee
2012	Gordon Research Conference and Seminar on Intermediate Filaments – Best Seminar Presentation, Selected Oral Presentation
2012	UT Southwestern DOCS Award
2013	AAD Young Investigators Award
2010-2011, 2014	Vitals Patients' Choice Award
2015	ASCI Council Young Physician-Scientist Award
2015	Hartwell Foundation Individual Biomedical Research Award Finalist
2019	Dr. J.B. Shelmire Professorship in Dermatology

Active Research Support:

R01 AR072655 (Wang) 4/01/2018 – 3/31/2023 \$1,754,720 (includes indirects)
NIH/NIAMS

Mechanisms of Glucose Dependence in Proliferating Cells

We will characterize how glucose transport and metabolism regulates normal skin homeostasis, inflammatory skin diseases, and skin carcinogenesis using both genetics and chemical inhibition of glucose transport.

RSG 132188 (Wang) 7/01/2018 – 6/30/2022 \$702,000 (includes indirects)

ACS Research Scholar Award

Glucose Transport as a Targetable Vulnerability in SCC of the Skin

We will test how topical inhibitors of glucose transport impacts the development of squamous cell cancer. In addition, we will test determine whether the inhibition of glucose transport synergizes with existing chemotherapeutics by inhibiting nucleotide synthesis.

Teaching:

1994-1996	Tutor, Stanford University. Introductory and Organic Chemistry, Undergraduate Advising Center.
1998	Teaching Assistant, Stanford University. Biology 129 - Cellular Dynamics (T. Stearns and J. Nelson)
2001-2003	Journal club tutor, Weill Medical College of Cornell University. Host Defenses; Molecules to Cells; and Gene Expression Courses.
2012	Organizer, Society for Investigative Dermatology Merkel cell carcinoma: From virology and immunology toward rational therapy
2011 to date	Lecturer, UT Southwestern Medical Center MS1 – Multisystem Disorders (Eczematous Disorders)

Service:

1996-1998	Head Advising Associate, Okada and West Lagunita, Stanford
1999	MD-PhD Student Retreat, Coordinator, Tri-Institutional MD-PhD program
2000-2002	Cornell Science Challenge for NYC public schools, Cornell Medical College
2002-2003	Friday lecture series, The Rockefeller University
2000-2004	Student & Postdoc Seminar Series Committee, The Rockefeller University
2008	Volunteer, Camp Braveskin for Children with skin diseases
2011	Fellow, American Academy of Dermatology
2011 to date	Dermatology Foundation – Young Leader's Society
2007 to date	Volunteer, Agape Free Saturday Clinic, UT Southwestern

2007 to date Member, Society for Investigative Dermatology
2009 to date Member, Texas Dermatological Society
2011 to date Leaders Society, The Dermatology Foundation

Ad Hoc Reviewer:

Archives of Dermatological Research; Autophagy; British Journal of Dermatology; Cancer Research; Cell Death & Disease; EMBO Journal; Experimental Dermatology; Free Radical Research; Gastroenterology; Journal of Cell Science; Journal of Infection; Journal of Investigative Dermatology; Lung Cancer; Molecular and Cellular Biology; Oncotarget; Pediatric Infectious Disease Journal; JAMA Dermatology; Scientific Reports; Theranostics; Nature; Antioxidant & Redox Signaling

Presentations:

2003 Cold Spring Harbor Meeting: Telomeres and Telomerase, poster presentation
2003 Rockefeller Cancer Biology Symposium, poster presentation
2003 Irving Weinstein Symposium on Cancer Prevention, poster presentation
2004 EMBO / 58th Harden meeting: Telomeres and Genome Stability, oral presentation
2004 New York Academy of Sciences: Meeting on Genome Integrity, oral presentation
2009 Texas Dermatological Society: Spring 2009, Oral presentation, 1st prize
2010 Society for Investigative Dermatology (Selected oral presentation)
2011 AAD Annual Meeting, Merkel Cell Carcinoma Interest Group (Oral presentation)
2011 UT Health Science Center San Antonio, Lecturer
2011 Montagna Symposium on the Biology of the Skin (Invited oral presentation)
2012 Merkel cell carcinoma: Virology & Immunology toward rational therapy, organizer
2012 Gordon Research Seminar on Intermediate Filaments (Invited speaker)
2012 Gordon Research Conference on Intermediate Filaments (Oral presentation)
2012 Baylor University Medical Center Invited Speaker
2012 UT Southwestern Austin Lecturer
2013 Dialogues in Dermatology Invited Guest
2013-15 AAD Annual Meeting Invited Speaker: C022 Infectious Diseases
2015 FASEB Glucose Transporter Meeting (Selected Speaker)
2017 Texas Dermatology Society Annual Meeting
2017 Northwestern University Research Talk (Invited Speaker)
2017 FASEB Glucose Transporter Meeting (Selected Speaker)
2018 Society of Investigative Dermatology: Skin Development Sessions Short Talk
2019 Northwestern University Dermatology Grand Rounds
2019 UT San Antonio Health Science Center: Dermatology Talk (Invited Speaker)
2019 University of Miami Medical School: Dermatology Grand Rounds
2019 University of Miami Medical School: Pathology Grand Rounds
2019 Society of Investigative Dermatology: Clinical Scholar Plenary Talk
2019 Society of Investigative Dermatology: Carcinogenesis Sessions Short Talk
2019 ICGEB DNA Tumor Virus Meeting: Selected Presentation

Original Research:

1. Chamseddin BH, Lee EE, Kim J, Zhan X, Yang R, Murphy KM, Lewis CK, Hosler GA, Hammer ST, and **Wang RC**. Assessment of circularized E7 RNA, GLUT1, and PD-L1 in anal squamous cell carcinoma. *Oncotarget*. 2019 Sep 23.
2. Zhao J, Lee EE, Kim J, Yang R, Chamseddin B, Ni C, Gusho E, Xie Y, Chiang CM, Buszczak M, Zhan X, Laimins L, **Wang RC**. Transforming activity of an oncoprotein-encoding circular RNA from human papillomavirus. *Nat Comm*. 2019 May 24. 10(1): p. 2300. PMID: 31127091.

3. Chamseddin BH, Tran BA, Lee EE, Pastrana DV, Buck CB, **Wang RC**, Kikorian AY. Trichodysplasia spinulosa in a child: Identification of trichodysplasia spinulosa-associated polyomavirus in skin, serum, and urine. *Pediatr Dermatol*. 2019 June 12.
4. Zhang Z, Zi Z, Lee EE, Zhao J, Contreras D, South AP, Abel ED, Chong BF, Vandergriff T, Hosler G, Mettlen M, Scherer PE, Rathmell J, DeBerardinis RJ, **Wang RC**. Differential Glucose Requirement in Skin Homeostasis and Injury Identifies a Therapeutic Target for Psoriasis. *Nat Med*. 2018 May;24(5):617-627. PMID: 29662201.
5. Maddy AJ, Lee EE, Maderal AD, **Wang RC**, Tosti A, Cho-Vega JH. A case of disseminated follicular spicules in human immunodeficiency virus-associated follicular syndrome in the absence of the seven known human polyomaviruses, suggesting that this disorder is distinct from trichodysplasia spinulosa. *Br J Dermatol*. 2018 Mar 24. PMID: 29573272.
6. Matsumoto A, **Wang R**, Carlson JA. Columnar dyskeratosis-A clue to Wong-type dermatomyositis? *J Cutan Pathol*. 2017 Jul 14. PMID: 28707759.
7. Siska PJ, Beckermann KE, Mason FM, Andrejeva G, Greenplate AR, Sendor AB, Chiang YJ, Corona AL, Gemta LF, Vincent BG, **Wang RC**, Kim B, Hong J, Chen CL, Bullock TN, Irish JM, Rathmell WK, Rathmell JC. Mitochondrial dysregulation and glycolytic insufficiency functionally impair CD8 T cells infiltrating human renal cell carcinoma. *JCI Insight*. 2017 Jun 15;2(12). PMID: 28614802
8. Zhang ZZ, Lee EE, Sudderth J, Yue Y, Zia A, Glass D, DeBerardinis RJ, **Wang RC**. Glutathione Depletion, Pentose Phosphate Pathway Activation, and Hemolysis in Erythrocytes Protecting Cancer Cells from Vitamin C Induced Oxidative Stress. *J Biol Chem*. 2016 Sep 22. PMID: 27660392.
9. Maryoung L, Yue Y, Young A, Newton CA, Barba C, van Oers N, Garcia CK*, and **Wang RC***. Somatic mutations in telomerase promoter counterbalance germline loss-of-function mutations. *J Clin Invest*. 2017 Mar 1. PubMed PMID: 28192371. *co-corresponding author.
10. Nguyen KD, Lee EE, Yue Y, Stork J, Pock L, North JP, Vandergriff T, Cockerell C, Hosler GA, Pastrana DV, Buck CB, **Wang RC**. Human polyomavirus 6 and 7 are associated with pruritic and dyskeratotic dermatoses. *J Am Acad Dermatol*. 2017 May. PMID: 28040372.
11. Barton M, Lockhart S, Sidbury R, **Wang RC**, Brandling-Bennett H. Trichodysplasia Spinulosa in a 7-Year-Old Boy Managed by Physical Extraction of Keratin Spicules. *Pediatr Dermatol*. 2017 March. PMID: 27990673.
12. Starokadomskyy P, Gemelli T, Rios JJ, Xing C, **Wang RC**, Li H, Pokatayev V, Dozmorov I, Khan S, Miyata N, Fraile G, Raj P, Xu Z, Xu Z, Ma L, Lin Z, Wang H, Yang Y, Amitai DB, Orenstein N, Mussaffi H, Baselga E, Tadini G, Grunebaum E, Sarajlija, Krzweski K, Wakeland EK, Yan N, de la Morena MT, Zinn AR, and Burstein E. DNA polymerase- α regulates type I interferon activation through cytosolic RNA:DNA synthesis. *Nat Immunol*. 2016 Mar 28. PMID: 27019227.
13. Leitenberger JJ, Abdelmalek M, **Wang RC**, Strasfeld L, and Hopkins RS. Two cases of trichodysplasia spinulosa responsive to compounded topical cidofovir 3% cream. *JAAD Case Reports*. 2015 Nov. 1:S33-5. PMID: 27051806; PMCID: PMC4809585.
14. Kazem S, Lauber C, van der Meijden E, Kooijman S, Kravchenko AA; **TrichSpin Network**, Feltkamp MC, Gorbalenya AE. Limited variation during circulation of a polyomavirus in the human population involves the COCO-VA toggling site of Middle and Alternative T-antigen(s). *Virology*. 2015 Oct 28;487:129-140. PMID: 26519899.
15. Lee EE, Ma J, Sacharidou A, Mi W, Nguyen N, Jiang Y, Pascual JM, Shaul PW, and **Wang RC**. A Protein Kinase C phosphorylation site in GLUT1 affects glucose transport and is mutated in GLUT1 deficiency syndrome. *Mol Cell*. 2015 May 13. PMID: 25982116.
16. Hosler GA, Weibel L, and **Wang RC**. The Cause of Follicular Spicules in Multiple Myeloma. *JAMA Dermatol*. 2014 Dec 3. PMID: 25471315.

17. Hosler GA, Davoli T, Mender I, Litzner B, Choi J, Kapur P, Shay JW, and **Wang RC**. A Primary Melanoma and its Asynchronous Metastasis Highlight the Role of *BRAF*, *CDKN2A*, and *TERT*. *J Cutan Pathol*. 2014 Nov 19. PMID: 25407517.
18. Kazem S, van der Meijden E, **Wang RC**, Rosenberg AS, Pope E, Benoit T, Fleckman P, Feltkamp MC. Polyomavirus-Associated Trichodysplasia Spinulosa Involves Hyperproliferation, pRB Phosphorylation and Upregulation of p16 and p21. *PLoS One*. 2014 Oct 7;9(10):e108947. PMID: 25291363.
19. **Wang RC**, Wei Y, An Z, Zou Z, Xiao G, Bhagat G, White M, Reichelt J, and Levine B. Akt-Mediated Regulation of Autophagy and Tumorigenesis through Beclin 1 Phosphorylation. *Science*. 2012 Nov 16;338(6109):956-9. PMID: 23112296.
20. **Wang RC**, Levine B. Calcipotriol Induces Autophagy in HeLa Cells and Keratinocytes. *J Invest Dermatol*. 2011 Jan 13. PMID: 21228817.
21. Matthews MR*, **Wang RC***, Reddick RL, Saldivar VA, Browning JC*. Viral-associated trichodysplasia spinulosa: a case with electron microscopic and molecular detection of the trichodysplasia spinulosa-associated human polyomavirus. *J Cutan Pathol*. 2011 May. PMID: 21251037. *equal contribution
22. Diaz de Leon A, Cronkhite JT, Yilmaz C, Brewington C, **Wang R**, Xing C, Hsia CC, Garcia CK. Subclinical Lung Disease, Macrocytosis and Premature Graying in Kindreds with Telomerase (TERT) Mutations. *Chest*. 2011 Feb 24. PMID: 21349926.
23. Hockemeyer D, Palm W, **Wang RC**, Couto SS, de Lange T. Engineered telomere degradation models dyskeratosis congenita. *Genes Dev*. 2008 Jul 1;22(13):1773-85.
24. Takai H, **Wang RC**, Takai KK, Yang H, de Lange T. Tel2 regulates the stability of PI3K-related protein kinases. *Cell*. 2007 Dec 28;131(7):1248-59.
25. **Wang RC**, Smogorzewska A, de Lange T. Homologous recombination generates T-loop-sized deletions at human telomeres. *Cell*. 2004 Oct 29;119(3):355-68. *Cover article*.
26. Abola AP, Willits MG, **Wang RC**, Long SR. Reduction of adenosine-5'-phosphosulfate instead of 3'-phosphoadenosine-5'-phosphosulfate in cysteine biosynthesis by *R. meliloti* and other members of the family Rhizobiaceae. *J Bacteriol*. 1999 Sep;181(17):5280-7.
27. Ma X, Sun Q, **Wang R**, Singh G, Jonietz EL, Margolin W. Interactions between heterologous FtsA and FtsZ proteins at the FtsZ ring. *J Bacteriol*. 1997 Nov;179(21):6788-97.
28. Margolin W, **Wang R**, Kumar M. Isolation of an ftsZ homolog from the archaebacterium *Halobacterium salinarum*: implications for the evolution of FtsZ and tubulin. *J Bacteriol*. 1996 Mar;178(5):1320-7.

Reviews:

1. Nguyen KD, Chamseddin BH, Cockerell CJ, **Wang RC**. The Biology and Clinical Features of Cutaneous Polyomaviruses. *J Invest Dermatol*. 2019 Feb;139(2):285-292. Epub 2018 Nov 22. Review. PMID: 30470393.
2. Klionsky DJ et al. Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). *Autophagy*. 2016 Jan 2;12(1):1-222. PMID: 26799652.
3. Klionsky DJ et al. Guidelines for the use and interpretation of assays for monitoring autophagy. *Autophagy*. 2012 Apr;8(4):445-544. PMID: 22966490
4. **Wang RC**, Levine B. Autophagy in cellular growth control. *FEBS Lett*. 2010 Apr 2;584(7):1417-26.

Book Chapter:

1. Lee EE and **Wang RC**. Glucose Uptake in Heterologous Expression Systems. Glucose Transport-Methods and Protocols. *Methods Mol Biol*. 2017 Nov.