

## *Curriculum Vitae*



Nominated by the students at Virginia College of Osteopathic Medicine in 2006 for the National Northrup Award that recognizes "The Most Outstanding Medical Educator."  
Awarded the "Outstanding Researcher of the Year," by the Virginia College of Osteopathic Medicine 2018-2019

Prior Funding

Medical College of Georgia NIH Training Grant; July 1996-July 1997

Title "Role of NO inhibition in lupus nephritis," (\$30,000)  
Dean's Post Doctoral Research Fellowship Grant;  
Medical University of South Carolina  
Role: (PI) 7/1/1998-7/1/ 1999

Title "The effect of Prostaglandin J<sub>2</sub> on mesangial cell inflammation," (\$105,000)  
Arthritis Foundation Post -doctoral Research Grant Award July 1999-July 2002.  
Role: (PI) 7/1/1999-6/30/2001

Title "The use of PPAR- $\gamma$  agonists to inhibit kidney inflammation," (\$25,000)  
Research Enhancement Awards Grant, VA Medical Center  
Role: (PI) 6/1/2000- 6/1/2001

Title "The role of adhesion molecules in lupus nephritis treated with AGIX-1096," (\$105,000)  
Atherogenics Inc.  
Role: (PI) 1/1/2000-1/1/2001

Title "Inhibition of lupus nephritis in IRF-1 deficient mice," Total Budget \$136,000.  
NIH R21, National Institute of Arthritis and Musculoskeletal & Skin Diseases  
Role: (PI) 2/15/03-6/31/05

Alliance for Lupus Research

Title "Histone deacetylase inhibitors are therapeutic targets in SLE." Total Budget \$1,000,000.  
Role C0-PI, Nilamadhab Mishra PI, Wake Forest Medical School 2/01/03-1/31/07

Harvey Peters Foundation

Title "The mechanism of *Brucella* mediated reactive arthritis"  
Total Budget 105,000  
Role: (PI) 7/1/06-11/31/07

Arthritis Foundation, Arthritis Investigator Award

Title "IRF-1 deletion in MRL/lpr mice"  
Total budget \$375,000.  
Role: (PI) 7/1/04-6/30/10

NIH-R15, National Institute of Allergy and Infectious Diseases

Title "Inhibition of lupus nephritis with CeO<sub>2</sub> Nanoparticles"  
Total Budget \$250,000  
Role: (PI) 2/1/08 -2/1/11

NIH R03 National Institute of Allergy and Infectious Diseases

Title "micro RNA expression in lupus nephritis"

Total Budget \$158,000  
Role

Project Goals: The goal of the proposed research is to mechanistically define the role of HDAC6, on B cell activation in systemic lupus erythematosus. The results of this project are to gain a better understanding of how protein acetylation may effect glomerulonephritis.

Specific Aims: (1). Using a selective HDAC6 inhibitor, define how acetylation alters B cell differentiation and activation in lupus mice. (2)

Amjed Mustafa: (Co-mentor, PhD student 2004-2009), Virginia Maryland College of Veterinary Medicine, department of Biomedical Sciences and Pathobiology.

Ali Radjavi: (mentor) 2005-2008 -undergraduate student in my laboratory. Ali is currently a graduate student at UVA.

Julie Swenson: (mentor) 2006-2007 mentor, Julie is a received her DVM from the VMRCVM, was a research intern in my laboratory. Julie was primary author on a manuscript is currently a veterinarian in Tempe, Arizona.

Rachel Edelstein: (mentor) 2006-2009 was an undergraduate student in my laboratory. Rachel became a technician at Harvard Medical School in the laboratory of Dr. Michael Lawlor.

Kristina Cocco: (mentor) 2008-2009 was an undergraduate student in my laboratory. Kristina completed graduate school at Virginia Commonwealth University.

Megan Thomas: (mentor) 2006-2009 was an undergraduate student in my laboratory. Megan co authored a manuscript and presented at FASEB in 2008. Megan completed veterinary school at VMRCVM.

Suzanne Hirst (mentor) Veterinary Medical Sciences (VMRCVM) Maters student (2008-2010). Suzanne was also an undergraduate student (2006-2008) in my laboratory She is currently a Physician's Assistant in Oregon.

Samuel Shimp (co-mentor 2008-2012 PhD awarded) biomedical engineering at VT.

Cristen Chafin (mentor 2008-2013 PhD awarded). Cristen was a graduate student in Biomedical Sciences and Pathobiology at the veterinary school. She won multiple awards for her research as a student.

Nicole Regna (mentor 2008-2014 PhD awarded). Nicole was a graduate student in Biomedical Sciences and Pathobiology at the veterinary school. She won multiple awards for her research as a student.

Adrian Castanda (mentor 2014-2016). Adrian graduated with his Mater's degree in 2016

Mircea Spasaru (mentor 2009-2013 PhD awarded) at the University of Virginia (UVA) 37.7 (at).32.4 (or)16 (2008)JTJ 0 Tc 0 Tw (12Tj 0.009 9 Tc -0.05

Via Wellness Committee, Virginia College of Osteopathic Medicine 2002-2008  
Library committee VCOM 2021-present  
Arthritis Foundation Board of Directors (Carolina Chapter) 2000-2002  
Faculty handbook taskforce VCOM 2005-2006  
Special Olympics Board of Directors for the New River Valley 2005-2102

#### Publications

1. Mills, T. M., C. M. Reilly, and R. W. Lewis. 1996. Androgens and penile erection: a review. *Journal of Andrology* 17:633-638.
2. Mills, T. M., V. S. Stopper, and C. M. Reilly . 1996. Sites of androgenic regulation of cavernosal blood pressure during penile erection in the rat. *International Journal of Impotence Research* 8:29-34.
3. Reilly, C. M. , W. E. Cannady, V. B. Mahesh, V. S. Stopper, L. M. De Sevilla, and T. M. Mills. 1996. Duration of estrogen exposure prior to follicle-stimulating hormone stimulation is critical to granulosa cell growth and differentiation in rats. *Biol Reprod* 54:1336-1342.
4. Reilly, C. M. , R. W. Lewis, V. S. Stopper, and T. M. Mills. 1997. Androgenic maintenance of the rat erectile response via a non-nitric-oxide-dependent pathway. *Journal of Andrology* 18:588-594.
5. Reilly, C. M. , P. Zamorano, V. S. Stopper, and T. M. Mills. 1997. Androgenic regulation of NO availability in rat penile erection [see comments]. *Journal of Andrology* 18:110-115.
6. Reilly, C. M. , V. S. Stopper, and T. M. Mills. 1997. Androgens modulate the alpha-adrenergic responsiveness of vascular smooth muscle in the corpus cavernosum. *Journal of Andrology* 18:26-31.
7. Reilly, C. M. , P. Zamorano, V. S. Stopper, and T. M. Mills. 1997. Androgenic regulation of NO availability in rat penile erection. *J Androl* 18:110-115.
8. Mills, T. M., R. W. Lewis, V. S. Stopper, and C. M. Reilly. 1998. The loss of alpha-adrenergic effect during the erectile response in the long-term diabetic rat. *Journal of Andrology* 19:473-478.
9. Gilkeson, G., C. Cannon, J. Oates, C. Reilly, D. Goldman, and M. Petri. 1999. Correlation of serum testosterone and nitric oxide production. *J Androl* 20:136-141.

17. Reilly, C. M. , and G. S. Gilkeson. 2002. Use of genetic knockouts to modulate disease expression in a murine model of lupus, MRL/lpr mice. *Immunologic Research* 25:143-153.
18. Reilly, C. M. , L. W. Farrelly, D. Viti, S. T. Redmond, F. Hutchison, P. Ruiz, P. Manning, J. Connor, and G. S. Gilkeson. 2002. Modulation of renal disease in MRL/lpr mice by pharmacologic inhibition of inducible nitric oxide synthase. *Kidney Int* 61:839-846.
19. Masuya, M., C. J. Drake, P. A. Fleming, C. M. Reilly, H. Zeng, W. D. Hill, A. Martin-Studdard, D. C. Hess, and M. Ogawa. 2003. Hematopoietic origin of glomerular mesangial cells. *Blood* 101:2215-2218.
20. Mishra, N., C. M. Reilly , D. R. Brown, P. Ruiz, and G. S. Gilkeson. 2003. Histone deacetylase inhibitors modulate renal disease in the MRL-lpr/lpr mouse. *Journal of Clinical Investigation* 111:539-552.
21. Molano, I. D., S. Redmond, H. Sekine, X. K. Zhang, C. Reilly , F. Hutchison, P. Ruiz, and G. S. Gilkeson. 2003. Effect of genetic deficiency of terminal deoxynucleotidyl transferase on autoantibody production and renal disease in MRL/lpr mice. *Clin Immunol* 107:186-197.
22. Guyton, K., B. Zingarelli, S. Ashton, G. Teti, G. Tempel, C. Reilly , G. Gilkeson, P. Halushka, and J. Cook. 2003. Peroxisome proliferator-activated receptor-gamma agonists modulate macrophage activation by gram-negative and gram-positive bacterial stimuli. *Shock* 20:56-62.
23. Reilly, C. M. , N. Mishra, J. M. Miller, D. Joshi, P. Ruiz, V. M. Richon, P. A. Marks, and G. S. Gilkeson. 2004. Modulation of renal disease in MRL/lpr mice by suberoylanilide hydroxamic acid. *J Immunol* 173:4171-4178.
24. Douglas, G., C. Reilly , M. A. Dooley, G. Page, G. Cooper, and G. Gilkeson. 2004. Angiotensin-converting enzyme (insertion/deletion) and endothelial nitric oxide synthase polymorphisms in patients with systemic lupus erythematosus. *J Rheumatol* 31:1756-1762.
25. Klein, A. B., S. G. Witonsky, S. A. Ahmed, S. D. Holladay, R. M. Gogal, Jr., L. Link, and C. M. Reilly . 2006. Impact of different cell isolation techniques on lymphocyte viability and function. *J Immunoassay Immunochem* 27:61-76.
26. Reilly, C. M. , S. Olgun, D. Goodwin, R. M. Gogal, Jr., A. Santo, J. W. Romesburg, S. A. Ahmed, and G. S. Gilkeson. 2006. Interferon regulatory factor-1 gene deletion decreases glomerulonephritis in MRL/lpr mice. *Eur J Immunol* 36:1296-1308.
27. Swenson, J., S. Olgun, A. Radjavi, T. Kaur, and C. M. Reilly . 2007. Clinical efficacy of buprenorphine to minimize distress in MRL/lpr mice. *Eur J Pharmacol* 567:67-76.
28. Strobl, J. S., M. Cassell, S. M. Mitchell, C. M. Reilly , and D. S. Lindsay. 2007. Scriptaid and suberoylanilide hydroxamic acid are histone deacetylase inhibitors with potent anti-Toxoplasma gondii activity in vitro. *J Parasitol* 93:694-700.
29. Reilly, C. M. , M. Thomas, R. Gogal, Jr., S. Olgun, A. Santo, R. Sodhi, E. T. Samy, S. L. Peng, G. S. Gilkeson, and N. Mishra. 2008. The histone deacetylase inhibitor trichostatin A upregulates regulatory T cells and modulates autoimmunity in NZB/W F1 mice. *J Autoimmun* 31:123-130.
30. Mustafa, A., S. D. Holladay, M. Goff, S. G. Witonsky, R. Kerr, C. M. Reilly , D. P. Sponenberg, and R. M. Gogal, Jr. 2008. An enhanced postnatal autoimmune profile in 24 week-old C57BL/6 mice developmentally exposed to TCDD. *Toxicol Appl Pharmacol* 232:51-59.
31. Vincent, A., S. Babu, E. Heckert, J. Dowding, S. M. Hirst, T. M. Inerbaev, W. T. Self, C. M. Reilly , A. E. Masunov, T. S. Rahman, and S. Seal. 2009. Protonated Nanoparticle Surface Governing Ligand Tethering and Cellular Targeting. *ACS Nano*.
32. Peairs, A., A. Radjavi, S. Davis, L. Li, A. Ahmed, S. Giri, and C. M. Reilly . 2009. Activation of AMPK inhibits inflammation in MRL/lpr mouse mesangial cells. *Clin Exp Immunol* 156:542-551.
33. Hirst, S. M., A. S. Karakoti, R. D. Tyler, N. Sriranganathan, S. Seal, and C. M. Reilly. 2009. Anti-inflammatory properties of cerium oxide nanoparticles. *Small* 5:2848-2856.
34. Mustafa, A., S. D. Holladay, S. Witonsky, K. Zimmerman, C. M. Reilly, D. P. Sponenberg, D. A. Weinstein, E. Karpuzoglu, and R. M. Gogal, Jr. 2009. Gestational exposure to 2,3,7,8-



tetrachlorodibenzo-p-dioxin disrupts B-cell lymphopoiesis and exacerbates autoimmune disease in pho1phoj C

52. Puthiyaveetil, A. G., C. M. Reilly, T. S. Pardee, and D. L. Caudell. 2013. Non-homologous end joining mediated DNA repair is impaired in the NUP98-HOXD13 mouse model for myelodysplastic syndrome. *Leuk Res* 37:112-116.
53. Parson C, Smith V, Krauss C, Banerjee HN, Reilly C, Krause JA, Wachira JM, Giri D, Winstead A, Mandal SK. The effect of novel rhenium compounds on lymphosarcoma, PC-3 prostate and myeloid leukemia cancer cell lines and an investigation on the DNA binding properties of one of these compounds through electronic spectroscopy. *J Bioprocess Biotech.* 2013 Dec 27;4(1):141.PMID: 25221731
54. Bandara, SM Boyle, A Contreras-Rodriguez, AM Martins, R Prasad, and C. M. Reilly. *Brucella melitensis* Differs from *B. suis* in Growth and Urease Activity in Vitro, and Infectivity in Fisher-344 Rats in Vivo *Advances in Infectious Diseases*, 2013, 60-62.
55. Chafin, C.B., Regna, N.L., Caudell, D.L., and Reilly, C.M. MicroRNA-let-7a promotes NF B activation and E2F-mediated cell proliferation in vitro. *Cell Mol Immunol.* 2014 Jan;11(1):79-83PMID:24240124
56. Chafin, C.B., Regna, N.L., Hammond, S.E., Caudell, D.L., and Reilly, C.M. Cellular and urinary microRNA alterations in NZB/W mice with hydroxychloroquine or prednisone treatment. *Int Immunopharmacol.* 2013 Nov;17(3):894-906.PMID: 24121037
57. Regna LN, Chafin CB, Hammond SE, Puthiyaveetil AG, Caudell, DL, and Reilly CM. Class I and II Histone Deacetylase Inhibition by ITF2357 Reduces SLE Pathogenesis In Vivo. *Clin Immunol.* 2014 Mar;151(1):29-42. PMID:24503172
58. Regna LN and Reilly CM. Isoform-Selective HDAC Inhibition in Autoimmune Disease. *J Clin Cell Immunol* 5:207. 2014
59. Regna NL, Vieson MD, Luo XM, Chafin CB, Puthiyaveetil AG, Hammond SE, Caudell DL, Jarpe MB, Reilly CM. Specific HDAC6 inhibition by ACY-738 reduces SLE pathogenesis in NZB/W mice. *Clin Immunol.* 2016 Jan;162:58-73. doi: 10.1016/j.clim.2015.11.007. Epub 2015 Nov 22. PMID:26604012
60. Parson C, Smith V, Krauss C, Banerjee HN, Reilly C, Krause JA, Wachira JM, Giri D, Winstead A, Mandal SK. Anticancer Properties of Novel Rhenium Pentylcarbanato Compounds against MDA-MB-468(HTB-132) Triple Node Negative Human Breast Cancer Cell Lines. *Br J Pharm Res.* 2015

- Reilly CM, Luo XM. Control of lupus nephritis by changes of gut microbiota. *Microbiome*. 2017; 5(1):73. PubMed [journal] PMID: 28697806, PMCID: PMC5505136
66. Mu Q, Tavella VJ, Kirby JL, Cecere TE, Chung M, Lee J, Li S, Ahmed SA, Eden K, Allen IC, Reilly CM, Luo XM. Antibiotics ameliorate lupus-like symptoms in mice. *Scientific reports*. 2017; 7(1):13675. PubMed [journal] PMID: 29057975, PMCID: PMC5651817
67. Liao X, Ren J, Reihl A, Pirapakaran T, Sreekumar B, Cecere TE, Reilly CM, Luo XM. Renal-infiltrating CD11 cells are pathogenic in murine lupus nephritis through promoting CD4<sup>+</sup> T cell responses. *Clinical and experimental immunology*. 2017; 190(2):187-200. PubMed [journal] PMID: 28722110, PMCID: PMC5629427
68. Ren J, Liao X, Vieson MD, Chen M, Scott R, Kazmierczak J, Luo XM, Reilly CM. Selective HDAC6 inhibition decreases early stage of lupus nephritis by down-regulating both innate and adaptive immune responses. *Clinical and experimental immunology*. 2018; 191(1):19-31. PubMed [journal] PMID: 28876451, PMCID: PMC5721231
69. Luo XM, Edwards MR, Mu Q, Yu Y, Vieson MD, Reilly CM, Ahmed SA, Bankole AA. Gut Microbiota in Human Systemic Lupus Erythematosus and a Mouse Model of Lupus. *Applied and environmental microbiology*. 2018; 84(4). PubMed [journal] PMID: 29196292, PMCID: PMC5795066
70. Ren J, Panther E, Liao X, Grammer AC, Lipsky PE, Reilly CM. The Impact of Protein Acetylation/Deacetylation on Systemic Lupus Erythematosus. *International journal of molecular sciences*. 2018; 19(12). PubMed [journal] PMID: 30545086, PMCID: PMC6321219
71. Ren J, Catalina MD, Eden K, Liao X, Read KA, Luo X, McMillan RP, Hulver MW, Jarpe M, Bachali P, Grammer AC, Lipsky PE, Reilly CM. Selective Histone Deacetylase 6 Inhibition Normalizes B Cell Activation and Germinal Center Formation in a Model of Systemic Lupus Erythematosus. *Front Immunol*. 2019 Oct 25;10:2512. doi: 10.3389/fimmu.2019.02512. eCollection 2019. PMID: 31708928
72. Mu Q, Cabana-Puig X, Mao J, Swartwout B, Abdelhamid L, Cecere TE, Wang H, Reilly CM, Luo XM. Pregnancy and lactation interfere with the response of autoimmunity to modulation of gut microbiota. *Microbiome*. 2019 Jul 16;7(1):105. doi: 10.1186/s40168-019-0720-8 PMID: 31311609
73. Eric Panther, Xavier Cabana Puig, Jingjing Ren, Xiaofeng Liao, Brianna Swartwout, Miranda Vieson, Leila Abdelhamid, Ashton Shiraz, Xin Luo, Christopher M. Reilly. The Effect of Dietary Fiber Intake on Systemic Lupus Erythematosus (SLE) Disease in NZB/W Lupus Mice. 2020 *J Clin Cell Immunol*, Vol.11 Iss.3 No:1000590
74. Dai R, Heid B, Xu X, Xie H, Reilly CM, Ahmed SA. EGR2 is elevated and positively regulates inflammatory IFN production in lupus CD4<sup>+</sup> T cells. *BMC Immunol*. 2020 Jul 9;21(1):41. doi: 10.1186/s12865-020-00370-z. PMID: 32646370
75. Abdelhamid L, Cabana-Puig X, Swartwout B, Lee J, Li S, Sun S, Li Y, Ross AC, Cecere TE, LeRoith T, Werre SR, Wang H, Reilly CM, Luo XM. Retinoic Acid Exerts Disease Stage-Dependent Effects on Pristane-Induced Lupus. *Front Immunol*. 2020 Mar 20;11:408. doi: 10.3389/fimmu.2020.00408. eCollection 2020. PMID: 32265909
76. Mu Q, Edwards MR, Swartwout BK, Cabana Puig X, Mao J, Zhu J, Grieco J, Cecere TE, Prakash M, Reilly CM, Puglisi C, Bachali P, Grammer AC, Lipsky PE, Luo XM. Front Gut Microbiota and Bacterial DNA Suppress Autoimmunity by Stimulating Regulatory B Cells in a Murine Model of Lupus. *Immunol*. 2020 Nov 10;11:593353. doi: 10.3389/fimmu.2020.593353. eCollection 2020. PMID: 33240280

77. Cabana-Puig X, Bond JM, Wang Z, Dai R, Lu R, Lin A, Oakes V, Rizzo A, Swartwout B, Abdelhamid L, Mao J, Prakash M, Sangmeister C, Cheung N, Cowan C, Reilly CM, Sun S, Ahmed SA, Luo XM. Phenotypic Drift in Lupus-Prone MRL/lpr Mice: Potential Roles of MicroRNAs and Gut Microbiota. *Immunohorizons*. 2022 Jan 17;6(1):36-46. doi: 10.4049/immunohorizons.2100082.PMID: 35039434
78. Mu Q, Swartwout BK, Edwards M, Zhu J, Lee G, Eden K, Cabana-Puig X, McDaniel DK, Mao J, Abdelhamid L, Brock RM, Allen IC, Reilly CM, Luo XM. Regulation of neonatal IgA production by the maternal microbiota. *Proceeding of Natl Acad Sci U S A*. 2021 Mar 2;118(9):e2015691118. doi: 10.1073/pnas.2015691118.PMID: 33619092
79. Shiraz AK, Panther EJ, Reilly CM. Altered Germinal-Center Metabolism in B Cells in Autoimmunity. *Metabolites*. 2022 Jan 5;12(1):40. doi: 10.3390/metabo12010040.PMID: 35050162

A complete list of my 79 peer reviewed publications can be found at:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1jefe-5wb2pk8/bibliography/45795288/public/?sort=date&direction=descending>

#### Other interests

Have organized and been the race director for several national Triathlons and running events

Compete in triathlons and running events

Director of Aquatics for the Special Olympics in Blacksburg, VA

Volunteer for the Arthritis Foundation

Head Swim Coach for Blacksburg High School men's and woman's swim team

Nationally Certificated USA swimming official