CURRICULUM VITAE
Sue Rutherford Siegel, PhD

Address: The Pennsylvania State University
College of Health and Human Development
Department of Biobehavioral Health
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University Park, PA 16802

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EDUCATION

2001 Ph.D., Human Genetics, School of Health Sciences, Griffith University, Gold Coast (Australia).
Dissertation: The use of microsatellite markers to study essential hypertension genes.

1994 Grad.Dip.Ed., High School Teaching, Dept of Education, University of Queensland, Brisbane (Australia).

1993 Grad.Dip.Sc., Biochemistry/Pharmacology, University of Queensland, Brisbane (Australia).
Dissertation: Debrisoquine hydroxylase gene polymorphism and susceptibility to Parkinson's disease

1992 B.Sc., University of Queensland, Brisbane (Australia).

PROFESSIONAL EXPERIENCE

2017- present *Research Professor*
Dept of Biobehavioral Health, College of Health and Human Development, Penn State University, University Park, PA.

2017- present *Telomere Specialist*
Biomarker Core Lab, College of Health and Human Development, Penn State University, University Park, PA

2014-2017 *Associate Research Professor* (*Senior Research Associate),*
Dept of Biobehavioral Health, College of Health and Human Development, Penn State University, University Park, PA.

2011-2014 *Assistant Professor*
Dept of Biochem & Mol Biol, College of Medicine, Penn State University, Hershey, PA.

2009-2011 *Research Associate*
Dept of Anthropology, College of Liberal Arts, Penn State University, University Park, PA

2008-2014 *Adjunct Research Fellow, Molecular Basis of Disease Division*
Griffith Institute for Health and Medical Research, Griffith Health, Gold Coast, Australia

2006- 2009 *Staff Scientist I*
Department of Genetics, Texas Biomedical Research Institute, San Antonio, TX.

2005-2006 *Postdoctoral Scientist*
Department of Genetics, Texas Biomedical Research Institute, San Antonio TX.

PROFESSIONAL EXPERIENCE (cont.)

2003-2005 *Postdoctoral Fellowship, American Heart Association Award*
School of Medicine, University of Maryland, Baltimore, MD.

2002-2003 *Postdoctoral Fellow, National Institute of Health (NIH)*
School of Medicine, University of Maryland, Baltimore, MD.

2000-2002 *Postdoctoral Fellow, National Organization of Rare Disorders (NORD)*
Department of Pathology, University of Virginia, Charlottesville VA.

1999-2000 *Postdoctoral Fellow, Defense Force Project Grant*
Department of Pathology, University of Virginia, Charlottesville VA.

1995-1998 *NH&MRC Postgraduate Scholar and Teaching Assistant*
School of Health Sciences, Griffith University-Gold Coast (Australia).

1997 *Associate Lecturer in Genetics*
School of Health Sciences, Griffith University- Gold Coast (Australia).

1995 *Lecturer in Molecular Genetics*
School of Health Sciences, Griffith University- Gold Coast (Australia).

1994 *Student Teacher (High School)*
Department of Education, University of Queensland. (diploma conferred 1994)

1993-1994 *Research Assistant*
Department of Medicine, University of Queensland (Australia).

TEACHING EXPERIENCE

2022- SCASD Delta High School, Experiential Day Travel Instructor
Thursday May 26 8.40am-11.40am "Stress and the Body Response"
Friday May 27 8.40am-9.40am "Stress and Cortisol Debrief"

2019, 2022-present Director, Biobehavioral Health DNA summer camp for high school students.
Dept of Biobehavioral Health, College of Health and Human Development, Penn State University, University Park, PA

2018- 2019 2021 Summer lab supervisor to BBH 490 (Introduction to Internship Experience) undergrad students
Dept of Biobehavioral Health, College of Health and Human Development, Penn State University, University Park, PA

2018- 2020 HPRF Laboratory supervisors to SCASD high school
Dept of Biobehavioral Health, College of Health and Human Development, Penn State University, University Park, PA (Jennie Berda: 2019-2020; Supriya Kumar: 2018-2019)

2011- 2013 Laboratory supervisor to high school student and Stanford University undergraduate student
Dept of Biochem & Mol Biol, College of Medicine, Penn State University, Hershey, PA.

2006 Lecturer in SNP genotyping to graduate students
Department of Genetics, Texas Biomedical Research Institute

2003- 2005 Laboratory supervisor to high school and PhD candidate student
School of Medicine, University of Maryland, Baltimore, MD

1998 Lecturer in Molecular Genetics and Diseases
School of Nursing, Griffith University, Gold Coast (Australia)

TEACHING EXPERIENCE (cont.)

1998	Lecturer in Molecular Genetics, Cell Biology and Biochemistry. Health and Applied Science, Griffith University, Gold Coast (Australia)
1995-1998	Laboratory instructor for Molecular Genetics, Cell Biology and Biochemistry. Health and Applied Science, Griffith University, Gold Coast (Australia)
1993	Teaching Assistant Department of Physiology and Pharmacology, University of Queensland (Australia).

PROFESSIONAL ACTIVITIES

Advisory Panels/Committees/Workgroups

2022-2024	Elected member to Faculty, Rights and Responsibilities Committee, Penn State Faculty Senate
2022-2023	Panel Member, Office of the Vice Provost for Faculty Affairs (VPFA) Non Tenure Exit Interview Survey
2022-2023	Co-Chair, Search Committee for Environmental Health and Neurotoxicology Associate or Full Professor (tenure), Department of Biobehavioral Health
2021-2022	Member, Search Committee for Associate Dean for Equity, Inclusion, Diversity and Faculty Affairs, College of Health and Human Development
2021	BBH Precision Population Health tenure track interview panel for 4 candidates
2021-present	Chair, Department of Biobehavioral Health Non-Tenure Promotion Committee
2021-2022	Co-Chair, Faculty Rights and Privacy, Faculty Affairs subcommittee, PSU Faculty Senate
2020-2021	Member, Department of Biobehavioral Health Non-Tenure Promotion Committee
2020	Faculty Affairs Faculty Senator Interview Committee for Vice Provost for Faculty Affairs-Faculty Development to select Ann Clements, Penn State University
2019-2023	Member, Faculty Affairs Standing Committee, Faculty Senate Penn State University
2019-2023	Secretary, HHD Faculty Council, Penn State University
2019-	HHD Senator elected, HHD Faculty Council, Penn State University
2018-2023	Member, HHD Sustainability Council
2018-2021	Member, College of HHD Non-Tenure Promotion Ad Hoc Committee
2018	Member, HHD Faculty Council Interview Committee for Dean of HHD to select Craig Newschaffer, College of Health and Human Development. Penn State University
2018-2019	Member, CHHD Faculty Senate Committee (alternate senator)

Thesis Dissertation Committees

2023	PhD Thesis examiner for School of Biomedical Sciences, QUT, Brisbane(Australia)
2021	PhD Thesis examiner for School of Biomedical Sciences, QUT, Brisbane(Australia)
2019	PhD Thesis examiner for School of Biomedical Sciences, QUT, Brisbane (Australia)
2019	Masters in Diagnostic Genomics dissertation examiner for QUT, Brisbane (Australia)
2014	PhD Thesis examiner for Griffith University (Australia)

PROFESSIONAL ACTIVITIES

Thesis Dissertation Committees (cont.)

2013 PhD Thesis examiner for Griffith University (Australia)

2012 PhD Thesis examiner for School of Medical Science, Griffith University

2011 PhD Thesis examiner for Griffith Institute for Health and Medical Research, Griffith University (Australia)

2009 PhD Thesis examiner for Griffith Institute for Health and Medical Research, Griffith University (Australia)

Professional Societies

2006- present Member, American Heart Association and Council for High Blood Pressure Research

1999- present Member, American Society of Human Genetics

1995- 2007 Member, Australian Society for Medical Research

1995- 2007 Member, Human Genetics Society of Australasia

1999- 2000 Associate Member, American Association for Cancer Research

1995-1999 Member, High Blood Pressure Research Council of Australia

Research Service

2001-2005 Work experience supervisor for 5 undergraduate students
2005-2008 Judge for San Antonio High School science awards, Texas
2008 Scientific journal peer reviewer for American Journal for Human Genetics
2009 Scientific journal reviewer for American Journal of Hypertension
2009 Scientific journal peer reviewer for Journal of Orthopaedic Research
2010 Scientific journal peer reviewer for Brain Research
2010-2016 Scientific journal peer reviewer for Cephalalgia
2010-present Judge for the Penn State University Graduate Exhibition
2011-2016 Scientific journal peer reviewer for The Journal of Pain
2011-2018 Scientific journal peer reviewer for Journal of Neurological Sciences
2011-present Scientific journal peer reviewer for Gene
2011-present Scientific journal peer reviewer for Molecular Biology Reviews
2012 Scientific journal peer reviewer for Clinical and Experimental Pathology
2012-present Scientific journal peer reviewer for International Journal of Molecular Sciences
2012-present Editorial Board member, Gene
2012-2018 Scientific journal peer reviewer for Neurology
2013-2015 Associate Editor, MetaGene
2013-2018 Scientific journal peer reviewer for Current Cancer Drug Targets
2018-present Scientific journal peer reviewer for Research Square
2018-present Scientific journal peer reviewer for Cells
2019-present Scientific journal peer reviewer for Nutrients
2020-present Scientific journal peer reviewer for Biomedicines
2020-present Scientific journal peer reviewer for Vaccines
2021 Judge for BBH undergraduate research forum
2022-present Scientific journal peer reviewer for Biochimie
2023 Scientific journal peer reviewer for Molecular Neurobiology

EXTRAMURAL APPOINTMENTS, AWARDS AND PROFESSIONAL ACTIVITIES

2012-present Editorial Board member for the scientific journal GENE
2013-2014 Associate Editor for the scientific journal Meta Gene
2009-2010 **GRC Distinguished Visiting Researcher Award,** Griffith University, Gold Coast (Australia)
2006 **International Congress for Human Genetics Travel Grant** Awarded for conference presentation, *American Society for Human Genetics*
2003-2005 **Postdoctoral Fellowship** awarded for grant application titled "Investigation of chromosome 2q31-q34 for blood pressure variation in the Amish",
Mid-Atlantic Affiliate Research Committee of the American Heart Association.
2003-2004 **Applied Biosystems SNP Genotyping Supplementary Grant** awarded to identify a hypertension gene on human chromosome 2 in the Old Order Amish,
Applera Corporation- Applied Biosystems (Foster City, CA)
2000 **Patent no.** US006156510 – Griffiths LR, Rutherford S and Morris B. Polymorphisms in a microsatellite region of a glucocorticoid receptor gene (Gemini Genomics Ltd Licensed)
1998 AMRAD **Young Investigator** Awarded for conference presentation,
Australian Society for Medical Research
1996 **Travel Grant** Awarded for student conference presentation,
High Blood Pressure Research Council of Australia
1995 **Travel Grant** Awarded for student conference presentation
Australian Society for Medical Research
1995-1998 NHMRC Postgraduate Scholarship

PUBLICATIONS (ORCHID ID# 0000-0003-3884-9766)

Theses

BSc/GradDip Sc: Debrisoquine hydroxylase gene polymorphism and susceptibility to Parkinson's disease
PhD Thesis: The use of microsatellite markers to study essential hypertension genes

Articles

1. **Rutherford S**, Nyholt DR, Curtain RP, Quinlan SR, Gaffney PT, Morris BJ, Griffiths LR (1997) Association of an Low Density Lipoprotein Receptor (LDLR) microsatellite marker with obesity, *Int J Obes Relat Metab Disord,* 21:1032-1037.
2. **Rutherford S**, Boatwright SD, Samwell GA, Morris BJ, Griffiths LR (1998) A linkage and cross-sectional study of hypertension and obesity using a poly (A) Alu-repeat polymorphism at the glucagon receptor gene locus (17q25). *Clin Exp Pharmacol Physiol* 25:627-629.
3. Curran J, Lea RA, **Rutherford S,** Weinstein SR, Griffiths LR. (2001) Association of estrogen receptor and glucocorticoid receptor gene polymorphisms with sporadic breast cancer, *Int J Cancer*, 95: 271-275.
4. El-Rifai W, **Rutherford S,** Knuutila S, Frierson HF, Moskaluk CA. (2001) Novel DNA copy number losses in chromosome 12q12-q13 in adenoid cystic carcinoma. *Neoplasia,* 3:173-178. [PMC1505590]
5. **Rutherford S,** Johnson MP, Curtain RP, Griffiths LR. (2001) Chromosome 17 and the inducible nitric oxide synthase gene in human essential hypertension, *Hum Genetics*, 109: 408-415.
6. **Rutherford S,** Johnson MP, Griffiths LR. (2004). Sib pair studies implicate chromosome 18 in essential hypertension, *Am J Med Genet,* 126: 241-247**.**
7. **Rutherford S**, Hampton GM, Frierson HF, Moskaluk CA. (2005) Mapping of candidate tumor suppressor genes on chromosome 12 in adenoid cystic carcinoma. *Lab Invest*, 85:1076-1085.

PUBLICATIONS

Articles (cont.)

8. **Rutherford S**, Yongtoa Y, Frierson HF, Moskaluk CA. (2006) Chromosome 6 deletion and candidate tumor suppressor genes in adenoid cystic carcinoma. *Cancer Letters*, 236:309-317.
9. **Rutherford S**, Cai G, Lopez-Alvarenga JC, Kent JW, Voruganti VS, Proffitt JM, Curran JE, Johnson MP, Jowett JB, Bastarrachea RA, Atwood LD, Göring HHH, MacCluer JW, Moses EK, Blangero J, Comuzzie AG, Cole, SA. (2007) A chromosome 11q QTL influences change of blood pressure measures over time in Mexican Americans of the San Antonio Family Heart Study. *Am J Hum Genet*; 81(4):744-755. [PMC2227924]. https://doi.org/10.1086/521151
10. Franceschini N, MacCluer JW, Rose KM, **Rutherford S**, Cole SA, Laston S, Göring HHH, Diego V, Roman MJ, Lee ET, Best LG, Howard BV, Fabsitz RR, North KE. (2008) Genome-wide linkage analysis of pulse pressure in American Indians: The Strong Heart Study. *American Journal of Hypertension*; 21:194-199. [PMC2812893]
11. McArdle PF, **Rutherford S**, Mitchell BD, Damcott CM, Wang Y, Ott S, Chang YPC, Levy D, Shuldiner AR, Steinle N. (2008) Nicotinic acetylcholine receptor subunit variants on chromosome 2q are associated with blood pressure related traits in the Old Order Amish and the Framingham Heart Study. *BMC Medical Genetics*; 9:67. 67 [PMC2478679]. doi: 10.1186/1471-2350-9-67
12. Rainwater DL, **Rutherford S**, Dyer TD, Rainwater ED, Cole SA, VandeBerg JL, Stern MP, MacCluer JW, Blangero J, Mahaney MC· (2009) Determinants of Variation in Human Serum Paraoxonase Activity; *Heredity*; 102:147-154. [PMC2643132]
13. Franceschini N, Rose KM, Storti KL, **Rutherford S**, Voruganti VS, Laston S, Göring HH, Dyer TD, Umans JG, Lee ET, Best LG, Fabsitz RR, Cole SA, MacCluer JW, North KE.. (2009) Social- and behavioral-specific genetic effects on blood pressure traits: the Strong Heart Family Study. *Circ Cardiovasc Genet;* 2:396-401. [PMC2742382]
14. Cole S, Voruganti VS, Romans M, Bella JN, Okin PM, Haack K, Laston S, Göring HH, Almasy L, **Rutherford S**, Proffitt JM, Best LG, Fabsitz RR, Lee ET, Howard BV, Comuzzie AG, MacCluer JW, Devereux RB. (2009) *Circulation* 119 (10): E329-E329
15. Melton PE, **Rutherford S,** Voruganti VS, Göring HHH, Laston S, Haack K, Comuzzie AG, Dyer TD, Johnson MP, Kent JW Jr, Curran JE, Moses EK, Blangero J, Barac A, Lee ET, Best LG, Fabsitz RR, Devereux RB, Okin PM, Bella JN, Broeckel U, Howard BV, MacCluer JW, Cole SA, Almasy L. (2010) Bivariate genetic association of *KIAA1797* with heart rate in American Indians: The Strong Heart Family Study. *Hum Mol Genetics,* 9:3662-71.[PMC2928129] https://doi.org/10.1093/hmg/ddq274
16. Ramagopalan SV, Hoang U, Handel A, Giovannoni G, **Rutherford Siegel S**, Ebers GC, Goldacre MJ, Chaplin G. (2011) Period Prevalence of Multiple Sclerosis in England: Relationship to UV Exposure, *Neurology*, 76:1410-1414. [PMC3087404] doi: 10.1212/WNL.0b013e318216715e
17. Quillen E, Rainwater D, Dyer T, Carless M, Curran J, Johnson M, Goring H, Cole S, **Rutherford S**, MacCluer J Moses E, Blangero J, Almasy L, Mahaney M. (2012) Novel associations of non-structural loci with
18. **Rutherford Siegel S,** MacKenzie J, Chaplin G, Jablonski NG, Griffiths LR. (2012) Circulating microRNAs involved in multiple sclerosis. *Molecular Biology Reports,* 39(5): 6219-25. [PMID: 22231906] DOI: 10.1007/s11033-011-1441-7.
19. Franceschini N, Tao R, Liu L, **Rutherford S**, Haack K, Almasy L, Göring HHH, Laston S, Lee ET, Best L, Fabsitz R, Cole SA, North KE. (2014) Comprehensive Mapping of a Blood Pressure QTL on Chromosome 17 in American Indians of the Strong Heart Family Study. *BMC Cardiovasc Disord*, 14:158. [PMC4246441].
20. Mitchell C, Hobcroft J, McLanahan SS, **Rutherford Siegel** S, Berg A, Brooks-Gunn J, Garfunkel I, Notterman D. (2014) Social Disadvantage, Genetic Sensitivity and Children's Telomere Length. *PNAS*. 111(16):5944-5949. [PMC4000782].

PUBLICATIONS

Articles (cont.)

21. Acknowledgement for work performed in: James S, McLanahan SS, Brooks-Gunn J, Mitchell C, Schneper L, Wagner B, Notterman D. (2017). Sleep Duration and Telomere Length. *J Pediatr*. 187:247-252.e1. DOI: 10.1016/j.jpeds.2017.05.014 [PMC5662004]
22. Cells Editorial Office. Acknowledgment to Reviewers of Vaccines in 2018. Cells 2019, 8, 251. doi: 10.3390/cells9010251
23. Shalev I, Hastings W, Etzel L, Israel S, Russell MA, Hendrick KA, Zinobile M, **Rutherford Siegel S**. (2020) Investigating the impact of early-life adversity on physiological, immune, and gene expression responses to acute stress: A pilot feasibility study. *PLOS ONE*, 15(4): e0221310 doi.org/10.1371/journal.pone.0221310
24. Acknowledgement for work performed in: Hastings WJ, Einsberg DTA, Shalev I. (2020) Uninterruptible Power Supply Improves Precision and External Validity of Telomere Length Measurement *via* qPCR. Experimental Results. e52. doi: https://doi.org/10.1017/exp.2020.58
25. Acknowledgement of thanks for Drury SS. (2020) Little book of telomeres. A primer for the ties between telomeres, health and disease. A publication of the Telomere Research Network. https://tulane.app.box.com/s/z7zldv77elu1ktjosexqehgad21s6zso
26. Ensminger DC, **Siegel SR**, Owens DAS, Sheriff MJ, Langkilde T. (2021) Elevated glucocorticoids during gestation suggests sex-specific effects in offspring telomere lengths in wild lizard. *Comp Biochem Physiol A Mol Integr Physio*l. 257:110971.
27. Acknowledgement for work performed in: Hastings WJ, Einsberg DTA, Shalev I. (2021). Impact of Amplification Efficiency Approaches on Telomere Length Measurement via Quantitative-Polymerase Chain Reaction. *Frontiers in Genetics*. 12:728603. https://doi.org/10.3389/fgene.2021.728603
28. Acknowledgement for designing and developing work performed in: Zeid D, Mooney-Leber S, Seemiller L, Goldberg L, Gould T (2021), *Terc* Gene Cluster Variants Predict Liver Telomere Length in Mice, *Cells*. 10 (10): 2623 doi: 10.3390/cells10102623
29. Vaccines Editorial Office. Acknowledgment to Reviewers of Vaccines in 2020. Vaccines 2021, 9, 89. https://doi.org/10.3390/ vaccines9020089
30. Etzel L, Apsley AT, Mattern BC, Hastings WJ, Heller T, Ram N, **Rutherford Siegel S**, Shalev I. (2022) Immune cell dynamics in response to an acute laboratory stressor: a within-person between-group analysis of the biological impact of early life adversity. Stress. 25(1):347-356. PMC9704543 doi: 10.1080/10253890.2022.2148100.
31. Irvin MR, Roth D, Haley W, Blink M, Armstrong N, Kamin Mukaz, Mathias R, **Rutherford Siegel** S, Shalev I, Patki A. (2022) Telomere shortening and the Transition to Family Caregiving. PLOS one 17 (6): e0268689, doi: 10.1371/journal.pone.0268689
32. Vaccines Editorial Office. Acknowledgment to Reviewers of Vaccines in 2021. Vaccines 2021, 10, 213. doi: 10.3390/vaccines10020213
33. Biomedicines Editorial Office. Acknowledgment to Reviewers of Biomedicines in 2021. Vaccines 2022, 10, 313. doi: 10.3390/biomedicines10020313
34. **Rutherford Siegel S**, Ulrich M, Logue SF. Comparison qPCR study for selecting a valid single copy gene for measuring absolute telomere length. Gene. 2023 Jan 11;:147192. doi: 10.1016/j.gene.2023.147192. [Epub ahead of print] PubMed PMID: 36641077.

Books

1. **Rutherford S,** Shuldiner AR, Mitchell BD. (2004) Genome scans of type 2 diabetes mellitus. In: DeFronzo, R.A., Ferrannini, E., Keen, H., Zimmet, P eds. *International Textbook of Diabetes Mellitus* – 3rd Edition. John Wiley & Sons Ltd, Chichester, pp 439-450.

PUBLICATIONS (cont.)

Books (cont.)

2. Acknowledgement for consulting work performed in: Matovinovic, Elizabeth (PhD thesis). (2012) *Heritability and genome-wide linkage of complex diseases in the Norfolk Island population isolate*. Griffith Research Online. https://doi.org/10.25904/1912/3056

Press Releases

1. DNA camp: (2022) HHD Digest Highlight of the Week; Day in the life at DNA Camp, https://mailchi.mp/psu/hhd-digest-july-14-2022?e=21f721baad
2. Science News: Maternal stress during pregnancy may shorten lifespans of male lizard offspring by Sarah Lajeunesse (2021) May 17 https://science.psu.edu/news/maternal-stress-during-pregnancy-may-shorten-lifespans-male-lizard-offspring
3. BBH news: News for alumni and friends of the Department of Biobehavioral Health. Spring (2019) https://issuu.com/pennstatehhd/docs/bbh-newletter-2019

Abstracts

1. **Rutherford S**, Quinlan SA, Curtain RP, Nyholt DR, Morris BJ, Gaffney P, Griffiths LR. (1995) Low Density Lipoprotein Receptor gene studies in hypertension and obesity. *Human Genetics Society of Australia 17th Annual Scientific Meeting Program Addendum*, September, P349.

2. Griffiths LR**, Rutherford S**, Friend LR, Gaffney PT, Morris BJ. (1995) Hypertension candidate gene studies. *Federation of Asian and Oceanian Biochemists and Molecular Biologists Congress 7th Annual Meeting Program Addendum*, September, A215.

3. **Rutherford S**, Morris BJ, Gaffney PT, Griffiths LR. (1995) A cross-sectional analysis using an LDLR microsatellite marker to study obesity. *The Australian Society for Medical Research 34th National Scientific Conference Program Addendum*, November, 439.

4. **Rutherford S**, Morris BJ, Griffiths LR. (1996) A cross-sectional hypertension analysis using an angiotensinogen microsatellite marker. *Human Genetics Society of Australia 18th Annual Scientific Meeting Program Addendum*, September. P574.

5. **Rutherford S**, Gaffney PT, Morris BJ, Griffiths LR. (1996) An obesity association study using a glucocorticoid receptor microsatellite marker, *Australian Society for Medical Research 35th National Scientific Conference Program Addendum*, November, 550.

6. Griffiths LR, **Rutherford S**, Nyholt DR, Morris BJ. (1996) Sib-pair analysis of angiotensinogen and insulin receptor microsatellite markers in human hypertension, *Australian Society for Medical Research 35th National Scientific Conference Program Addendum,* November, 498

7 Griffiths LR, **Rutherford S**, Nyholt DR, Morris BJ. (1996) Hypertension genome scanning using affected sibships. *The High Blood Pressure Research Council of Australia Annual Scientific Meeting Program Addendum*, December, A212.

8. Griffiths LR, **Rutherford S**, Morris BJ. (1997) Sib-pair analysis of angiotensinogen and insulin receptor microsatellite markers in human hypertension. *The Human Genome Project Europe; Genomes, Diseases, Drugs, Diagnostics Program Addendum,* May, 150.

9. **Rutherford S**, Morris BJ, Griffiths LR. (1997) In search of hypertension gene loci: a genome-wide scan using affected siblings. *Human Genetics Society of Australia 19th* Annual Scientific Meeting *Program Addendum*, July, P453.

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PUBLICATIONS

Abstracts (cont.)

10. Zhang W, Jeyasingam CL, **Rutherford S**, Nyholt DR, Griffiths LR, Morris BJ. (1997) Genome scanning reveals a hypertension locus on chromosome 1 coinciding with the angiotensinogen gene. *The High Blood Pressure Research Council of Australia Annual Scientific Meeting Program Addendum***,** December, A247

11. **Rutherford S**, Morris BJ, Griffiths LR. (1997) A linkage and cross-sectional study of hypertension using a poly(A) *Alu* repeat at the glucagon receptor gene locus (17q25). *The High Blood Pressure Research Council of Australia Annual Scientific Meeting Program Addendum,* December, A173.

12. Nyholt DR, **Rutherford S,** Morris BJ, Griffiths LR. (1997) Analysis of angiotensinogen genotypes in hypertension sibships. *Am J Hum Genet*, 61: A288.

13. Griffiths LR, **Rutherford S**, Nyholt DR. (1998) Linkage of AGT microsatellite to Australian hypertensive Caucasians. *The International Society of Hypertension 17th Scientific Meeting Program Addendum,* June.

14. Griffiths LR, **Rutherford S**, Zee RYL, Nyholt DR, Jeyasingam CL, Zhang W, Morris BJ. (1998) ACE and hypertension genetics. *The International Society of Hypertension ACE Symposium Program Addendum,* June.

15. **Rutherford S**, Nyholt DR, Jeyasingam CL, Curtain RP, Morris BJ, Griffiths LR. **(**1998) Identification of a hypertension susceptibility locus on chromosome 17 using an affected sib-pair approach. *Human Genetics Society of Australasia 20th Annual Scientific Meeting Program Addendum*, July, P119.

16. Nyholt DR, **Rutherford S**, Jeyasingam CL, Morris BJ, Griffiths LR. **(**1998) Comparison of software packages and statistics used in the linkage analysis of affected sib-pair data. *Human Genetics Society of Australasia 20th Annual Scientific Meeting Program Addendum*, July, P253.

17. Jeyasingam CL, Zhang W, Nyholt DR, Schrader AP, **Rutherford S**, Griffiths LR, **(**1998) Morris BJ. Genome Scan of chromosome 1 in essential hypertension: A role for angiotensinogen. *Human Genetics Society of Australasia 20th Annual Scientific Meeting Program Addendum*, July, P443.

18. Jeyasingam CL, Curtain RP, Nyholt DR, Wang WYS, **Rutherford S**, Schrader AP, Adams DJ, Griffiths LR, Morris BJ. **(**1998) Inducible nitric oxide synthase gene (*NOS2A*) polymorphisms in essential hypertension. *Human Genetics Society of Australasia 20th Annual Scientific Meeting Program Addendum*, July, P121.

19. **Rutherford S**, Nyholt DR, Morris B, Griffiths LR. (1998) Identification of a hypertension susceptibility locus and a NOS2A microsatellite on chromosome 17. *The Australian Society for Medical Research 37th National Scientific Conference Program Addendum*. November, 90.

20. Hutchins C, **Rutherford S**, Nyholt DR, Morris B, Griffiths LR. (1998) A hypertension genome scan using microsatellite markers in EST rich regions. The *Australian Society for Medical Research 37th National Scientific Conference Program Addendum*. November, 320.

21. **Rutherford S**, Nyholt DR, Jeyasingam CL, Curtain RP, Morris BJ, Griffiths LR. (1998) An affected sib pair approach implicates a hypertension susceptibility locus and a NOS2A microsatellite on chromosome 17. *Am J Hum Genet*, 63: 16.

22. Griffiths LR, **Rutherford S**, Curtain RP, Nyholt DR. (1999) An affected sib-pair approach implicates a hypertension susceptibility locus and a NOS2A tetranucleotide repeat on chromosome 17. Boden Conference *Statistical Methods for Human Genome Analysis: Application in the Discovery of Genes Involved in Complex Human Diseases Program Addendum*. February, 89.

23. Hutchins C, **Rutherford S**, Nyholt DR, Griffiths LR. (1999) A hypertension genome scan using microsatellite markers in est rich regions. *The Australian Society for Biochemistry and Molecular Biology, Australian and New Zealand Society for Cell and Development Biology and Australian Society for Plant Physiologists Program Addendum,* September, 370.

PUBLICATIONS

Abstracts (cont.)

24. Warchalowski AM, **Rutherford S,** Griffiths LR. (1999) A chromosome 17 investigation of the human growth hormone microsatellite locus in human hypertension. *The Australian Society for Biochemistry and Molecular Biology, Australian and New Zealand Society for Cell and Development Biology and Australian Society for Plant Physiologists Program Addendum*, September, 392.

25. Curtain RP, **Rutherford S**, Nyholt DR, Griffiths LR. (1999) Inducible nitric oxide synthase gene in human essential hypertension. *The Australian Society for Biochemistry and Molecular Biology, Australian and New Zealand Society for Cell and Development Biology and Australian Society for Plant Physiologists Program Addendum*, September, 387.

26. Griffiths LR, Rutherford S, Curtain RP, Nyholt DR. (1999) An affected sib pair approach implicates a hypertension susceptibility locus and a NOS2A tetranucleotide repeat on chromosome 17. 6th IUBMB Conference Program Addendum, October, 790.

27. **Rutherford S**, Saadut R, Marshall CR, Rumpel CA, Frierson HR Jr, Moskaluk CA. (1999) Loss of heterozygosity analysis in the chromosome 6q region in adenoid cystic carcinoma. *Am J Hum Genet*, 65: 319.

28. Guerrini V, **Rutherford** S, Nyholt DR, Griffiths LR. (1999) Association of a glucocorticoid receptor gene marker with human essential hypertension. *Am J Hum Genet,* 65: 237.

29. Curran JE, Weinstein S, **Rutherford S,** Griffiths LR. (2000) Novel genotypes associated with sporadic breast cancer susceptibility. Presented at the *32nd Annual Meeting of the European Society of Human Genetics*, Amsterdam, the Netherlands, May, 450.

30. **Rutherford S**, Johnson MP, Lea RP, Quinlan SR, Nyholt DR, Griffiths LR. (2000) Association and linkage analyses implicates glucocorticoid interacting gene variants in essential hypertension and obesity. *Circulation*, 102: II-79.

31. **Rutherford S**, Leu RM, Saadut R, Marshall CR, Rumpel CA, El-Rifai W, Knuutila S, Frierson HF, Moskaluk CA. (2001) Evidence for deletion on chromosomes 6 and 12 in adenoid cystic carcinoma of the salivary gland. *Am J Hum Genet,* 69: 240.

32. Griffiths LR, Johnson MP, Lea RA, **Rutherford S**, Curtain RP, Hooker S, Hutchins C, Nyholt DR, Galley M, Kelly P, Reed P. (2002) A genome-wide scan for human essential hypertension susceptibility genes. *Am J Hum Genet*, 71: A1676.

33. **Rutherford S,** Rumpel CA, Frierson HF, Moskaluk CA. (2002) Investigation of candidate genes located within the chromosome 6q24.1-25.2 cytogenetic region in adenoid cystic carcinoma of the salivary gland. *Am J Hum Genet*, 71: A384.

34. **Rutherford S,** Green JO, Mitchell BD, Shuldiner AR. (2003) Effect of an NCCT mutation on blood pressure in the Amish. *Am J Hum Genet*, 73: A2039.

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PUBLICATIONS

Abstracts (cont.)

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46. McArdle PF, Wang Y, **Rutherford S,** O'Connell, JR, Ott SH, Reinhart LJ, Pollin TI, Damcott CM, Pohl M, Chang YC, Mitchell BD, Shuldiner AR, Steinle N. (2007) Positional cloning of genes influencing blood pressure on chromosome 2q31-q36 in the Old Order Amish. *American Society of Human Genetics 57th Annual Meeting Program Addendum*, October, 1728.

47. **Rutherford S**, Göring HHH, Laston S, Haack K, Almasy L, Comuzzie AG, Lee ET, Best LG, Fabsitz RR, Devereux RB, North KE, Franceschini N, Howard BV, MacCluer JW, Cole SA. (2008) A diastolic blood pressure QTL on chromosome 10 may confer risk of atherosclerosis in the Strong Heart Family Study. *Arteriosclerosis, Thrombosis, and Vascular Biology,* 28: e120 [Abstract P480].

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PUBLICATIONS
Abstracts (cont.)

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51. Melton PE, **Rutherford S**, Voruganti VS, Göring HHH, Laston S, Haack K, Comuzzie AG, Curran JE, Blangero J, Lee ET, Best LG, Fabsitz RR, Devereux RB, Okin PM, Bella JN, Broeckel U, Howard BV, MacCluer JW, Cole SA, Almasy L. (2009) Genetic association analysis of heart rate on chromosome 9p21 in American Indians: The Strong Heart Study. *American Society of Human Genetics 59th Annual Meeting Program Addendum*, October, p192 [Abstract P2312]

52. **Rutherford S**, Voruganti VS, Haack K, MacCluer JW, Griffiths L, Blangero J, Comuzzie AG, Cole SA. (2009) Searching for a gene on chromosome 18q influencing systolic blood pressure in Mexican Americans. *American Society of Human Genetics 59th Annual Meeting Program Addendum*, October, p193 [Abstract P2334].

53. **Rutherford Siegel S**, Voruganti VS, Haack K, MacCluer JW, Griffiths LR, Blangero J, Comuzzie A, Cole S. (2010) Searching for a gene on chromosome 18q influencing systolic blood pressure in Mexican Americans. *Hypertension*, October [Abstract P320].

54. **Rutherford Siegel S,** Notterman D. (2012) The use of whole genome sequencing in studying autism and blood pressure regulation, *First annual meeting of the Biochemistry and Molecular Biology Retreat*. September.

55. Notterman D, Schneper L, **Rutherford Siegel S**, Conroy E, Tomsho L, McGraw J, Keller C, Drautz D, Ratan A, Giardine B, Burhans R, Enright B, Broach J, Schuster S, Miller W. (2013) Genetics of Autism: A Whole-Genome Sequencing Approach, *Keystone Symposium on Human Genomics and Personalized Medicine*. June 17-21, p64. [Abstract 2052]

56. Hastings, WJ, **Rutherford Siegel S,** Shalev IU. (2016) Differential CD8+ Response to Stress is Moderated by Exposure to Early-Life Adversity. 46th Annual ISPNE Conference, August [Abstract ID:158].

RESEARCH SUPPORT
Current

NIH/NIEHS
R24 OD035455-01 Rutherford Siegel (PI) 04/01/23-03/31/24
Automated Liquid Handling Platform for Biomarker Core Lab
The major goal of this grant is to provide modernized equipment (liquid handler robot) for the shred use facility.
Role: Principal Investigator

Penn State Conferences and Institutes (C&I) Endowment
HHD Partnership Funds: DNA Camp: DNA and Your Health Rutherford Siegel (PI) 01/01/23-12/31/23
The major goal of this funding is to provide financial accessibility to high school students to attend PSU Summer Youth programs.

RESEARCH SUPPORT
Completed

NIH/NIEHS
U01ES030949 Shalev (PI) 9/13/19-05/31/22
The Comparability and Reproducibility of Telomere Length Measurements for Population-based Studies
The major goal of this grant was to standardize the telomere length assays to produce reproducible results independent of samples and lab running conditions. Role: Consultant

PSU College of Health and Human Development Undergraduate and Outreach Programs
The Mary Magino Community Service Endowment Rutherford Siegel (PI) 1/1/20-6/30/21
DNA and Your Health camp
The major goal of this grant was to introduce electrophoresis methods to the HHD summer camp to enhance high schoolers interest in precision medicine by identifying DNA polymorphisms and the behavioral modification of their genetic makeup for better health and wellbeing.
Role: Principal Investigator

PSU College of Health and Human Development Undergraduate and Outreach Programs
The Dr. Thomas M. Nardozzo Community Service Endowment Fund. Rutherford Siegel (PI) 1/1/19-6/30/20
Telomere Length Camp
The major goal of this grant was to establish a summer camp to enhance high schoolers interest in precision medicine by DNA extractions of their own saliva and identifying their biological age.
Role: Principal Investigator

American Heart Association, National Affiliate
0830158N Rutherford (PI) 07/01/08-06/30/12
Investigating a chromosome 18 region for involvement in hypertension and systolic blood pressure.
The major goal of this study is to identify the evolution of genes and gene variants affecting systolic blood pressure variation in Mexican American participants of the San Antonio Family Heart Study with a high salt diet and susceptibility to hypertension in Australian Caucasians hypertensive subjects with a Westernized diet.
Role: Principal Investigator

Toray Industries 3D Gene Rutherford Siegel (PI) 01/01/10-12/31/10
MicroRNA transcripts involved in multiple sclerosis
The major goal of this pilot study is to identify serum microRNA transcripts involved in MS and test the influence of Vitamin D in regulating the expression levels of these transcripts in the disease.
Role: Principal Investigator

NIH/NHLBI
R01 HL089651-01A1 North (PI) 04/01/08-01/31/09
Comprehensive Mapping of a Blood Pressure QTL on chromosome 17
The major goal of this subproject is to identify genes involved in sex specific blood pressure variation in Native American females of the Strong Heart Family Study (SHFS). Role: Co-Investigator (PI subcontract)

Voelcker Foundation Pilot Grant Rutherford (PI) 09/01/08-01/31/09
Southwest Foundation for Biomedical Research
Investigation of Gene Expression in Systolic Blood Pressure
The major goal of this project is to generate preliminary data in 10 gene transcripts influencing systolic blood pressure in Mexican Americans with a high salt diet. Role: Principal Investigator

RESEARCH SUPPORT
Completed (*cont.*)

Semp Russ Foundation of the San Antonio Area Foundation. Rutherford (PI) 06/30/07-11/30/08
The role of chromosome 11 in blood pressure variation

The major goal of this project is to investigate the interaction of a high salt diet and blood pressure genes and associated polymorphisms on chromosome 11 in Mexican Americans of the San Antonio Family Heart Study.

SW Foundation for Biomedical Research Forum Rutherford (PI) 10/01/07-9/30/08
Involvement of chr 11 microRNA transcripts in change in blood pressure over time in Mexican Americans of the San Antonio Family Heart Study. Role: Principal Investigator

The major goal of this project is to investigate the interaction of a high salt diet and three gene regulatory regions (microRNA) on chromosome 11 for involvement in blood pressure regulation in Mexican Americans of the San Antonio Family Heart Study. Role: Principal Investigator

ABI–Celera SNP Genotyping Supplementary Grant Rutherford (PI) 06/2004-12/2004
The major role of this project was to identify a gene associated with hypertension that was mapped to human chromosome 2 in the Old Order Amish. Role: Principal Investigator

Previously submitted

NIH/NINDS
1R01 NS076822-01 Rutherford Siegel (PI) 12/1/11-11/30/16
Transcriptional and Quantitative assessment of miRNAs involved in MS brain lesions

The major goal of this study is to identify the behavioral specific microRNAs and their gene targets involved in white matter brain lesions from MS individuals. Role: Principal Investigator

National Multiple Sclerosis Society Rutherford Siegel (PI) 01/09/11-12/31/12
Next generation sequencing of microRNAs involved in multiple sclerosis

The major goal of this study is to identify microRNA transcripts involved in multiple sclerosis, their gene targets and to identify polymorphisms in the transcripts involved in the disease. Role: Principal Investigator