

## **Robert C. Williams**

Professor  
Department of Anthropology (SHESC)  
Arizona State University  
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### **Education**

B.A. in Anthropology, The University of Michigan, 1971.  
M.A. in Anthropology, The University of Michigan, 1972.  
B.A. in Physical Anthropology, Magdalene College, Cambridge University, 1974.  
Ph.D. in Physical Anthropology, The University of Michigan, 1976.  
M.A. Cantab. in Physical Anthropology, Magdalene College, Cambridge University, 1977.

### **Academic Positions**

Professor, Arizona State University, from May, 1991  
Associate Professor with tenure, Arizona State University, Department of Anthropology, from August 1983 to April 1991.  
Assistant Professor, Arizona State University, Department of Anthropology, from August 1978 to July, 1983.  
Visiting Assistant Professor at the State University of New York at Binghamton, Department of Anthropology, January 1, 1978 to May 31, 1978.

### **Certifications**

Director, Histocompatibility Laboratory: by the United States Department of Health and Human Services, the Arizona State Department of Laboratory Licensors, and Medicare, 1980-1994  
Director of a laboratory for paternity testing and analysis: by the American Association of Blood Banks' Committee for Paternity Testing.  
Expert Witness in Paternity Testing, Arizona, Nevada, and Texas.

### **Research**

Histocompatibility Laboratory, Blood Systems, Inc. Scottsdale, Arizona, Director from January 14, 1980 to June 30, 1993.  
Histocompatibility Laboratory, Blood Systems, Inc., Director of Research, from July 1, 1993.  
Southwestern Field Studies Branch, The National Institute of Diabetes, Digestive, and Kidney Diseases, unpaid consultant from October, 1978.  
Department of Human Genetics, The University of Michigan Medical School, Ann Arbor, Michigan, Research Fellow, January 1976 to December 1977.  
Research Service, The Veterans Administration Hospital, Ann Arbor, Michigan, June 1974 to December 1975.  
Tissue Typing Laboratory, Old Addenbrookes Hospital, Cambridge, England, May 1973 to June 1974.

## **Honors and Fellowships**

Elected to Sigma Xi, The Scientific Research Society, April 1982.  
National Institutes of Health Postdoctoral Training Fellowship in Human Genetics, The University of Michigan Medical School, January 1976 to December, 1977.  
The Eugene B. Power Exchange Scholarship to Magdalene College, Cambridge University, 1972 to 1974.  
The William J. Branstrom Freshman Prize for Academic Achievement, The University of Michigan, 1965.

## **Professional Service**

Registrar and Member of the Organizing Committee, 72nd Annual Meeting of the American Association of Physical Anthropologists, April 2003, Tempe, AZ  
Chairman of North American Anthropology Region, XII International Histocompatibility Workshop, 1996, St. Malo and Paris France.  
Co-Chair of Antigen Society 7, XII International Histocompatibility Workshop, 1996, St. Malo and Paris France.  
Chairman of the HLA-B21 Antigen Society for the XIth International Histocompatibility Workshop, 1991, Yokohama, Japan  
Director of a "Core Serology Laboratory" for the Xth International HLA Workshop for HLA antigens HLA-B12, HLA-B44, HLA-B45, HLA-B21, HLA-B49, and HLA-Bw50. 1987, Princeton, New Jersey and New York City.  
Co-leader of Antigen Society #6 for the Xth International Histocompatibility Workshop, 1987, Princeton New Jersey and New York City.  
Member of the Parentage Testing Committee of the American Association of Blood Banks (AABB). From October, 1987 to July, 1991.  
Participant in the IXth International HLA Workshop, 1984, Munich, West Germany and Vienna Austria.

## **Professional Organizations**

The American Society of Human Genetics

## **Continuing Education**

Course: Linkage Analysis, March 10-12, 1989. Taught by Dr. Jurg Ott and held at the Department of Psychiatry, College of Physicians & Surgeons of Columbia University, New York.  
Course: Identity Testing by DNA Probe Analysis. June 12-23, 1989. The course was held at the Lifecodes Corporation, Saw Mill River Road, Valhalla, New York, and taught by their staff.  
Course: C\_Programming Language. Intel Corporation, March 23-27, 1992.  
Course: Fundamentals of SunOS, Sun Microsystems Inc., Milpitas, CA,

July 6-8, 1992.

Course: Advanced Linkage Analysis, 11-15, 1993. Department of Psychiatry,  
College of Physicians & Surgeons of Columbia University, New York.

Course: Statistical Analysis for Genetic Epidemiology. New Orleans.  
Robert Elston, Instructor. March 15-17, 1995.

Course: SAS Macro Language, May 20-21, 2003. SAS Institute, Phoenix, AZ

Course: SAS Web Tools: Static and Dynamic Solutions Using SAS/IntrNet  
Software, July 22-24, 2003, SAS Institute, San Francisco CA

Course: SAS Advanced Macro Language, October 3, 2003. SAS Institute,  
Phoenix, AZ

### Peer Reviewed Publications

57. K. Faccia and R.C. Williams. Schmorl's nodes: Clinical significance and implications for the bioarchaeological record. **International Journal of Osteoarchaeology**, published online, copyright February 2007.

56. Z. Lombard, D-L. Dalton, P.A. Venter, R.C. Williams, and L. Bornman. Association of HLA-DR, -DQ and vitamin D receptor alleles and haplotypes with tuberculosis in the Venda of South Africa. **Human Immunology** 67:643-654, 2006.

55. M.W. Tocheri, M.W. Marzke, R.C. Williams, and A. Razdan. Comparative and functional anatomy of the trapezium and trapezoid in extant hominids: I. Relative articular and nonarticular surface areas. **Journal of Human Evolution** 49:570-586, 2005.

54. J.D. McAuley, S. Caglioti, R.C. Williams, G.F. Robertson, L. Morgan, L.H. Tobler, and M.P. Busch. Clinical significance of non-discriminated reactive results using the Chiron Procleix HIV-1/HCV assay. **Transfusion** 44:91-96, 2004.

53. R.C. Williams. The mind of primitive anthropologists: Hemoglobin and HLA, patterns of molecular evolution. **Human Biology** 75(4):577-584, 2003.

52. M.W. Tocheri, M.W. Marzke, D. Liu, M. Bae, G.P. Jones, R.C. Williams, and A. Razdan. Functional capabilities of modern and fossil hominid hands: 3D analysis of trapezia. **American Journal of Physical Anthropology** 122(2):101-112, 2003.

51. J. Rousseau, R.C. Williams, and P. Creemers. HLA-DRB1, DQA1, DQB1 and DPB1 polymorphisms in Namibian Khoi and San and in the Xhosa and South African mixed-ancestry populations. **South African Journal of Science** 99:1-9, 2003.

50. R.E. Eckman, R.C. Williams, and C. Nagoshi. Marital Assortment for Genetic Similarity. **Journal of Biosocial Science** 34:511-523, 2002.

49. R.C. Williams, J.C. Long, R.L. Hanson, M.L. Sievers, and W.C. Knowler. Individual estimates of European genetic admixture associated with lower body mass index, plasma glucose, and prevalence of type 2 diabetes in Pima Indians. **The American Journal of Human Genetics** 66:527-538, 2000.

48. M. Tseng, R.C. Williams, K.R. Maurer, M.S. Schanfield, W.C. Knowler, and J.E. Everhart. Genetic admixture and gallbladder disease in Mexican Americans. **American Journal of Physical Anthropology** 106:361-371, 1998.
47. R.C. Williams, C. Jersild, M.L. Schroeder, K. Oen, R. Steffensen, J.D. McAuley, and W.C. Knowler. Report of the North American region, anthropology workshop, in D. Charron, Editor, **HLA, Genetic Diversity of HLA. Functional and Medical Implications**, Volume I, (EDK Publishers, Paris) pp. 334-336, 1997.
46. E. Martinez-Naves, L.D. Barber, J.A. Madrigal, C.M. Vullo, C. Clayberger, S.-C. Lyu, R.C. Williams, C. Gorodezky, T. Markow, M.L. Petzl-Erler, P. Parham. Interactions of HLA-B\*4801 with peptide and CD8. **Tissue Antigens** 50:258-264, 1997.
45. C. Raffoux, R.C. Williams, and C. Gorodezky. Report of Antigen Society 7 (B12, B13, B21, B37, B40, B41, B48), in D. Charron, Editor, **HLA, Genetic Diversity of HLA. Functional and Medical Implications**, Volume I, (EDK Publishers, Paris) pp. 69-72, 1997.
44. J.F. Williamson, Z. Layrisse, L.T. Tseneto, S.F. Goldman, C. Pizzochero, F. Nakajima, C. Alonso, O Na Thalang, R.C. Williams, and W.B. Bias. Report of Antigen Society 6 (B8, B14, B16, B67, B59), in D. Charron, Editor, **HLA, Genetic Diversity of HLA. Functional and Medical Implications**, Volume I, (EDK Publishers, Paris) pp. 62-68, 1997.
43. B.D. Tait, M. Hammond, C. Stravropoulos-Giokas, M. Varney, C. Gorodezky, G. de la Rosa, M. Moreno, D. Gomez, A. Magafia, A. Boyle, A. Gavriliadis, L. Ashdown, M. Simons, M. Andrien, J.D. Bignon, C. Bouillenne, W. Bias, M. Bohinjec, E. Dupont, L. Fainboim, M.F. Gonzales-Escribano, S. Hashemi, A. Kastelan, M. Kawasaki, B. Kfir, J. McAuley, M.S. Park, L. Persoli, R. Pitchappan, M.L. Schroeder, R. Scorza, J.M. Tiercy, and RC. Williams. AHS#4: B5, B35, B53, B18, B5102, B5103, B78. in D. Charron, Editor, **HLA, Genetic Diversity of HLA. Functional and Medical Implications**, Volume I, (EDK Publishers, Paris) pp. 47-55, 1997.
42. H. Maeda, C. Brautbar, A. Amoroso, S. Ballat, W.B. Bias, B. Coeffic, C. Daielli, M. de Bruyere, F. Dufosse, H. Grosse-Wilde, N. Grunnet, S. Hashemi, R. Hirata, R. Holdsworth, C.Y. Hu, E. Ivaskova, T. Juji, J.C. Le Petit, V. Lenhard, Z. Layisse, J. Loon, E. Maruya, P.L. Mattiusz, M. Nagy, S. Naito, F. Nakajima, Y. Nose, A. Kastelan, F. Pazderka, J.A. Sachs, S. Saitou, M. Segall, G. Semana, I. Schreuder, A. Smith, M.M. Tongio, E.M. Van den Berg-Loonen, J.L. Vicario, R.C. Williams, and R. Yasunami. AHS#15: HLA-DR6 (DR13, DR14), DR1403, DR1404, DR52. in D. Charron, Editor, **HLA, Genetic Diversity of HLA. Functional and Medical Implications**, Volume I, (EDK Publishers, Paris) pp. 107-119, 1997.
41. R.C. Williams, R.L. Hanson, D.J. Pettitt, M.L. Sievers, R.G. Nelson, and W.C. Knowler, HLA\*A2 confers mortality risk for cardiovascular disease in Pimans. **Tissue Antigens** (1996) 47:188-193.

40. E.J. Adams, A. Little, K.L. Arnett, J.E. McAuley, R.C. Williams, and P. Parham, Three new HLA-B alleles found in Hispanic Americans. **Tissue Antigens** (1995) 46:414-416.
39. R.C. Williams, L.T.H. Jacobsson, W.C. Knowler, A. del Puente, D. Kostyu, J.E. McAuley, P.H. Bennett, and D.J. Pettitt, Meta-analysis reveals association between most common class II haplotype in full heritage Native Americans and rheumatoid arthritis. **Human Immunology** (1995) 42:90-94.
38. J.C. Long, R. C. Williams, and M. Urbanek, An E-M algorithm and testing strategy for multiple locus haplotypes. **American Journal of Human Genetics** (1995) 56:799-810.
37. R.C. Williams, Measuring genetic admixture in human populations: The Gila River Story. **Evolutionary Anthropology** (1994) 3:84-92.
36. R.C. Williams, W.C. Knowler, D.J. Pettitt, J.C Long, D.A. Rokala, H.F. Polesky, R.A. Hackenberg, A.G. Steinberg, and P.H. Bennett, The magnitude and origin of European admixture in the Gila River Indian Community of Arizona: A union of genetics and demography. **American Journal of Human Genetics** (1992) 51:101-110.
35. R.C. Williams and J.E. McAuley, HLA class I variation controlled for Genetic Admixture in the Gila River Indian Community of Arizona: A Model for the Paleo-Indians. **Human Immunology** (1992) 33:39-46.
34. R.C. Williams and J.E. McAuley, HLA class II variation in the Gila River Indian Community of Arizona: Alleles, haplotypes, and a high frequency epitope at the HLA-DR locus. **Human Immunology** (1992) 33:29-38
33. R.C. Williams, S. Chen, J.E. McAuley, P. Richiardi, S. D'Alfonso, N. Mehra, R.T. McCalmon, G.Tardif, R.Strothman, W.C. Knowler, and D.J. Pettitt, Report of Antigen Society 106, B21, B49, Bw50, BN21, B12, B44, B45. In **HLA 1991** (ed K. Tsuji, M. Aizawa, T. Sasazuki) Volume 1, Oxford University Press, Oxford (1992) pp. 305-307.
32. R.C. Williams, G.M. Troup, J.L. Nelson, D.D. Kostyu, J.E. McAuley, D.J. Pettitt, W.C. Knowler, D.W. Templin, E.M. Mickelson, J.A. Hansen, and W. Hoy, Report of the North American Indian Anthropology Section. In **HLA 1991** (ed K. Tsuji, M. Aizawa, T. Sasazuki) Volume 1, Oxford University Press, Oxford (1992) pp. 683-685.
31. M.P. Belich, J.A. Madrigal, W.H. Hildebrand, J. Zemmour, R.C. Williams, R. Luz, M.L. Petzl-Erler, and P. Parham, Unusual HLA-B alleles in two tribes of Brazilian Indians. **Nature** (1992) 357:326-329.
30. W.H. Hildebrand, J.A. Madrigal, M.P. Belich, J. Zemmour, F.E. Ward, R.C. Williams, and P. Parham, Serologic cross-reactivities poorly reflect allelic relationships in the HLA-B12 and HLA-B21 groups. **Journal of Immunology** (1992) 149:3563-3568.
29. G. Kawaguchi, W.H. Hildebrand, M. Hiraiwa, S. Karaki, T. Nagao, N. Akiyama, H. Uchida, K. Kashiwase, T. Akaza, R.C. Williams, T. Juji, P. Parham, and M. Takiguchi, Two

subtypes of HLA-B51 differing by substitution at position 171 of the 2 helix. **Immunogenetics** (1992) 37:57-63.

28. J. Zemmour, J. Gumperz, W.H. Hildebrand, S.G.E. Marsh, F.E. Ward, R.C. Williams, P. Parham, HLA-Cw11 is a combination of Cw1 and a Public Epitope of HLA-Cw3 and HLA-Bw46 molecules. In **HLA 1991** (ed. K. Tsuji, M. Aizawa, T. Sasazuki) Volume 1, Oxford University Press, Oxford (1992) pp. 527-529.

27. J. Zemmour, J.E. Gumperz, F.E. Ward, S.G.E. Marsh, R.C. Williams, P. Parham, The molecular basis for reactivity of anti-Cw1 and anti-Cw3 alloantisera with HLA-B46 haplotypes. **Tissue Antigens** (1992) 39:249-257.

26. I. Balazs, J. Neuweiler, R.C. Williams, and C. Lantz, Analysis of Australian, Black, Caucasian, Chinese, and Amerindian populations with hypervariable DNA loci. **Advances in Forensic Haemogenetics**, (ed. C.H. Rittner and D.M. Schneider) Volume 4, Springer-Verlag, Berlin (1992) pp. 182-183.

25. A. Torroni, T.G. Schurr, C.C. Yang, E.J.E. Szathmary, R.C. Williams, M.S. Schanfield, G.A. Troup, W.C. Knowler, D.N. Lawrence, K.W. Weiss, and D.C. Wallace, Native American mitochondrial DNA analysis indicates that the Amerind and the Nadene populations were founded by two independent migrations. **Genetics** (1992) 130:153-162.

24. J.C. Long, R.C. Williams, J.E. McAuley, R. Medis, R. Partel, W.M. Tregellas, S.F. South, A.E. Rea, S.B. McCormick, and U. Iwaniec, Genetic variation in Arizona Mexican Americans: Estimation of Admixture Proportions. **American Journal of Physical Anthropology** (1991) 84:141-157.

23. R.C. Williams, Restriction fragment length polymorphism (RFLP). **Yearbook of Physical Anthropology** 1989 (1989)32:159-184.

22. R.C. Williams, Functional and morphological stasis during molecular evolution. **American Journal of Physical Anthropology** (1990) 81:101-112.

21. R.C. Williams, S.N. Chen, D.K. Gill, J.T.L. Lane, J.E. McAuley, R. Strothman, and K.K. Mittal, Antigen Society #6 Report (B21, B49, Bw50, BN21, B12, B44, B45) In B.Dupont (ed), **Immunobiology of HLA**, Volume 1, Histocompatibility Testing 1987. (Springer-Verlag: New York, 1989) pp. 133-147.

20. Poglayen-Neuwall, B.S. Durrant, M.L. Swansen, R.C. Williams, and R. Barnes, Estrous cycle of the Tayra, *Eira barbara*. **Zoo Biology** (1989) 8:171-177.

19. W.C. Knowler, R.C. Williams, D.J. Pettitt, and A.G. Steinberg, Gm(3;5,13,14) and Type 2 diabetes mellitus: An association in American Indians with genetic admixture. **American Journal of Human Genetics** (1988) 43:520-526.

18. R.C. Williams and W.C. Knowler, HLA matching in bone marrow transplantation. In P.I. Terasaki (ed), **Visuals of the Clinical Histocompatibility Workshop**. (One Lambda, Inc: Los Angeles, 1988) pp. 42,43.
17. R.C. Williams, A.G. Steinberg, W.C. Knowler, and D.J. Pettitt, Gm3;5,13,14 and stated-admixture: independent estimates of admixture in American Indians. **American Journal of Human Genetics** (1986) 39:409-413.
16. R.C. Williams, Scientific creationism and evangelical christianity: A reply. **American Anthropologist** (1985) 87:665, 666.
15. R.C. Williams, HLA II: The emergence of the molecular model for the human major histocompatibility complex. **Yearbook of Physical Anthropology** (1985) 28:79-95.
14. R.C. Williams, A.G. Steinberg, H. Gershowitz, P.H. Bennett, W.C. Knowler, D.J. Pettitt, W. Butler, R. Baird, L. Dowda-Rea, T.A. Burch, H.G. Morse, and C.G. Smith, Gm allotypes in Native Americans: Evidence for three distinct migrations across the Bering Land Bridge. **American Journal of Physical Anthropology** (1985) 66:1-19.
13. R.C. Williams, Has the recessive hypothesis for susceptibility to insulin-dependent diabetes mellitus been firmly and unequivocally rejected? **Diabetes** (1983) 32:774-776.
12. R.C. Williams, HLA. **Yearbook of Physical Anthropology** (1982) 25:91-112.
11. R.C. Williams, Scientific Creationism: An exegesis for a religious doctrine. **American Anthropologist** (1983) 85(1):92-102.
10. W.C. Knowler, D.J. Pettitt, P.H. Bennett, and R.C. Williams, Diabetes mellitus in Pima Indians: Genetic and evolutionary considerations. **American Journal of Physical Anthropology** (1983) 62:107-114.
9. W.C. Knowler, D.J. Pettitt, P.H. Bennett, and R.C. Williams, Diabetes mellitus in Pima Indians: Genetic and evolutionary considerations. **Genetics, Evolution, and Disease** (Alan R. Liss, Inc: New York, 1983) pp: 107-114.
8. P.E. Smouse and R.C. Williams, Multivariate analysis of HLA-disease associations. **Biometrics** (1982) 38:757-768.
7. P.H. Bennett, W.C. Knowler, D.J. Pettitt, and R.C. Williams, The HLA system and its relation to the high prevalence of early onset of non-insulin dependent diabetes (NIDDM) in the Pima Indians of Arizona. In the **Proceedings of the International Symposium on Clinico-Genetic Genesis of Diabetes Mellitus**. (Exerpta Medica: Amsterdam-Oxford-Princeton, 1982) pp. 125-130.
6. R.C. Williams, H.G. Morse, M.D. Bonnell, R.G. Rate, and T.T. Kuberski, The HLA loci of the Hopi and Navajo. **American Journal of Physical Anthropology** (1981) 56:291-296.

5. R.C. Williams, W.C. Knowler, W.J. Butler, D.J. Pettitt, J.R. Lisse, P.H. Bennett, D.L. Mann, A.H. Johnson, and P.I. Terasaki, HLA-A2 and type 2 diabetes in Pima Indians: an association and decrease in allele frequency with age. **Diabetologia** (1981) 21:460-463.
4. R.C. Williams and H. Gershowitz, IgG Levels in mother-father-cord trios. **Vox Sanguinis** (1979) 37:103-106.
3. R.C. Williams and H. Gershowitz, Gm allotypes in mother-father-cord trios, a selective transfer of autologous fetal IgG to the mother. **Vox Sanguinis** (1979) 37:96-102.
2. R.C. Williams, The probable mutation effect: neutral alleles and structural reduction. **Human Biology** (1978) 50:173-181.
1. R.C. Williams, A.W. McKenzie, J.H. Roger, and V.C. Joysey, HLA antigens in patients with guttate psoriasis. **British Journal of Dermatology** (1976) 95:163-167.

#### **Abstracts and Reviews**

44. J. Dunn Williams, G. Robertson, M. Sage, R.C. Williams, S. Caglioti, T. Delacy, W. Reynolds, D. Trainor, J.M. Linnen, C. Baker, and G. Armstrong. Multisite Sensitivity Evaluation of the PROCLEIX ULTRIO Assay on the Automated PROCLEIX TIGRIS System. **Transfusion** (2007) Vol. 47, Supplement, 130A.
43. J. Lambert, J. Dunn Williams, R. C. Williams, G. Robertson, and S. Caglioti. NAT Assay Performance Evaluation Using Universal Samples Distributed by the College of American Pathologists. **Transfusion** (2007) Vol. 47, Supplement, 129A,130A.
42. J. Dunn Williams, R. Spizman, D. Houghton, G. Robertson, and S. Caglioti. Procleix HIV-1/HCV Assay Specificity for ID-NAT versus Minipool Samples. **Transfusion** (2007) Vol. 47, Supplement, 42A-43A.
41. J. Dunn Williams, R.C. Williams, G.F. Robertson, R. Spizman, R. Dawson, and S. Caglioti. Implications of the FDA NAT guidance-for-industry document. **Transfusion** (2006) Vol. 46, Supplement, P100A.
40. J. Dunn Williams, G.F. Robertson, , R.C. Williams, R. Spizman, D. Houghton, and S. Caglioti. Seasonal monitoring for west nile virus RNA in blood donor screening. **Transfusion** (2006) Vol. 46, Supplement, P162A.
39. J. Dunn Williams, R.C. Williams, G.F. Robertson, R. Spizman, D. Houghton, and S. Caglioti. A multi-year geographic analysis of west nile virus RNA activity in blood donors. **Transfusion** (2006) Vol. 46, Supplement, P162A.



38. J. Dunn Williams, R.C. Williams, G.F. Robertson, R. Spizman, L. Morgan, P. Ostboe, D. Houghton, and S. Caglioti. Evaluating blood donor screening assays for west Nile virus years 2003-2005. **Transfusion** (2006) Vol. 46, Supplement, P162A.
37. M.W. Tocheri, J.E. Scott, and R.C. Williams. A Monte Carlo simulation method for estimating interspecific scaling relationships in the absence of specimen-specific body mass data. **American Journal of Physical Anthropology**(2005), Supplement.
36. J.D. McAuley, J. Jones, G. Robertson, R.C. Williams, M.K. McCormick, L. Powell, J.M. Linnen, S. Magic, P. Roper, C. Baker, C. Giachetti, G. Armstrong, S. Caglioti. Procleix WNV assay specificity and reproducibility analysis at a blood screening laboratory. **Transfusion** (2005), Vol. 45, Supplement, 150A.
35. J.D. McAuley, S. Caglioti, G. Robertson, T. Glanzer, R.C. Williams, V. Sarkissian, B. Bayer, W.B. Reynolds, L. Powell, J. Dockter, P. Estes, S. Wang, C. Baker, M.K. McCormick, C. Giachetti, G. Armstrong, S.L. Stramer. Multi-site study of the Procleix Ultrio assay using the enhanced semi-automated system compared with the TIGRIS automated system. **Transfusion** (2005) Vol. 45, Supplement, 97A.
34. J.D. McAuley, S. Caglioti, G. Robertson, T. Glanzer, R.C. Williams, V. Sarkissian, B. Bayer, W.C. Dickey, L. Powell, P. Estes, C. Baker, J. Cline, M.K. McCormick, J.M. Linnen, C. Giachetti, G. Armstrong, S.L. Stramer. Multi-site study of the Procleix WNV assay using the enhanced semi-automated system compared with the TIGRIS automated system. **Transfusion** (2005) Vol. 45, Supplement, 150A.
33. J. Jones, M. Sage, J.D. McAuley, G.F. Robertson, R.C. Williams, and S. Caglioti. Evaluation of external quality control material for nucleic acid testing. **Transfusion** (2005), Vol. 45, Supplement, 98A.
32. J.D. McAuley, R.C. Williams, G. Robertson, J. Jones, P. Ostboe, L. Morgan, and S. Caglioti. Specificity analysis of the Procleix Ultrio assays with volunteer blood donor specimens. **Transfusion** (2004), Supplement.
31. J.D. McAuley, R.C. Williams, G. Robertson, D. Eastman, J. Jones, S. Caglioti, and M.P. Busch. Efficacy assessment of the Procleix dHIV-1 assay in a vaccine clinical trial. **Transfusion** (2003) Vol. 43, Supplement.
30. J.D. McAuley, V. Winkelman, R.C. Williams, G. Robertson, S. Caglioti, and M.P. Busch. Performance assessment of the COBAS AmpliScreen and Procleix TMA HIV-1 and HCV assays with known RNA control samples. **Transfusion** (2003) Vol. 43, Supplement.
29. R.C. Williams. Hemoglobin and HLA-A: patterns of molecular evolution. **American Journal of Physical Anthropology** (2002) Supplement 34, 166. Invited.

28. J. McAuley, R.C. Williams, K. Ellerson, G. Robertson, S. Caglioti. Analysis of HIV-1/HCV RNA reactive minipools with nonreactive individual donations. **Transfusion** (2002) Vol. 42, Supplement p. 80S.
27. M.W. Tocheri, M.W. Marzke, D. Liu, G.P. Jones, R.C. Williams, and A. Razdan. How 'handy' was Homo habilis anyway? A 3D comparative analysis of the trapezium. Presented at the Canadian Association of Physical Anthropologists that was held October 23-27, 2002, in Ottawa.
26. J. McAuley, R.C. Williams, G. Robertson, K. Ellerson, S. Caglioti. Examining failure points within NAT testing. **Transfusion**, (2001) 41, Supplement, 81s.
25. J. McAuley, R.C. Williams, G. Robertson, K. Ellerson, S. Caglioti. An assessment of RNA environmental room control monitoring for NAT testing. **Transfusion** (2001) 41, Supplement, 29s.
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23. YF Chen and RC Williams. Estimating non-Indian genetic admixture in American Indians. *American Journal of Physical Anthropology*, (1999), Supplement 28, 106.  
JD McAuley, RO Endres, R Medis, M Marlowe, S Mathai, B Murphy, P Palmer, R Partel, E Tomines, TB Wiltbank, RC Williams. Evaluating high volume HLA class I DNA typing with serologically defined alleles. **Human Immunology**, (1998) 59, Supplement I, 12.
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21. JD McAuley, B Endres, T Wiltbank, TM Williams, RC Williams. Observation of class II allelic drop-out. **Human Immunology**, (1997) 55, Supplement I, 135.
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## **Dissertation**

R.C. Williams, Association of HL-A17 and HL-A13 with Guttate Psoriasis: The Autoimmune Reaction as a Mechanism of Differential Disease Susceptibility, a dissertation submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in The University of Michigan. University Microfilms (1976).

## **Grants and Contracts**

R.C. Williams, NIDDM and Genetic Admixture in the Cherokee Indians of Oklahoma. Subcontract to an NIH grant, Dr. Elisa Lee, Principal Investigator. January 1,1995 to December 31, 1999, \$123,951.

R.C. Williams, Histocompatibility Laboratory Projects, funded by Blood Systems' Research Foundation, Grant BSF-45-4, September 1, 1996 to August 31, 1997, \$23,024.

R.C. Williams, Histocompatibility Laboratory Projects, funded by Blood Systems' Research Foundation, Grants BSF-45-1,2,3, September 1, 1993 to August 31, 1996, \$64,672.00.

R.C. Williams, Strong Heart Study, funded by the National Institutes of Health, Barbara V. Howard, Ph.D.,Principal Investigator. A sample of 5000 Native Americans: Gm typing, \$15,000; RBC typing, \$60,000; Salary, \$20,000, Total, \$95,000.

Sally Swenson, Brian Hjelle, Robert C. Williams, Investigation of Use of Restriction Fragment Length Polymorphism (RFLP) Analysis for Class II Typing of Transplant Recipients. A grant from Blood Systems Research Foundation, Blood Systems, Inc., Scottsdale, Arizona, June 1990, \$51,904.00

R.C. Williams, Rheumatoid Arthritis and HLA Antigens in Pima Indians. A grant from the Institutional Biomedical Research Support Program, 1988. \$8,468.00. This was matched by the National Institutes of Health in Phoenix with \$4,500 for tissue typing trays December, 1988. Total: \$12,968.00.

R.C. Williams, Isoelectric Focusing of Human anti-HLA-A, B, C, and DR sera. A grant from Blood Systems Research Foundation, Blood Systems, Inc., Scottsdale, Arizona, September 1980, \$6,566.00

R.C. Williams, Characterization of the HLA-A Locus in Pima Indians. A series of contracts issued by NIDDK, Phoenix, Arizona, 1979-1981. Total: \$8,500.00

<b>R.C. Williams's Cumulative Citations for his Peer-Reviewed Publications and Cumulative Impact Scores</b>				
<b>R.C. Williams's Peer-Reviewed Publications</b>	<b>ISI Impact Factor</b>	<b>Citations 10/2004 Baseline</b>	<b>Citations 2/2008</b>	<b>New From Baseline</b>
<b>Transfusion</b> 44:91-96, 2004.	3.708	0	3	3
<b>American Journal of Physical Anthropology</b> 122(2):101-112, 2003.	2.693	0	2	2
<b>The American Journal of Human Genetics</b> 66:527-538, 2000.	12.340	17	37	20
<b>American Journal of Physical Anthropology</b> 106:361-371, 1998.	2.693	7	9	2
<b>HLA, Genetic Diversity of HLA. Functional and Medical Implications,</b> Volume I, (EDK Publishers, Paris) pp. 334-336, 1997.	0.000	1	2	1
<b>Tissue Antigens</b> 50:258-264, 1997.	1.990	13	15	2
<b>Tissue Antigens</b> (1996) 47:188-193.	1.990	1	2	1
<b>Tissue Antigens</b> (1995) 46:414-416.	1.990	16	17	1
<b>Human Immunology</b> (1995) 42:90-94.	2.664	22	34	12
<b>American Journal of Human Genetics</b> (1995) 56:799-810.	12.340	208	299	91
<b>Evolutionary Anthropology</b>	1.360	3	5	2

(1994) 3:84-92				
<b>American Journal of Human Genetics</b> (1992) 51:101-110	12.340	24	27	3
<b>Human Immunology</b> (1992) 33:39-46	2.664	27	30	3

<b>Human Immunology</b> (1992) 33:29-38 [See also 1995]	2.664	16	18	2
<b>HLA 1991</b> (ed K. Tsuji, M. Aizawa, T. Sasazuki) Volume 1, Oxford University Press, Oxford (1992) pp. 305-307.	0.000	3	4	1
<b>HLA 1991</b> (ed K. Tsuji, M. Aizawa, T. Sasazuki) Volume 1, Oxford University Press, Oxford (1992) pp. 683-685.	0.000	14	14	0
<b>Nature</b> (1992) 357:326- 329	32.182	214	227	13
<b>J of Immunology</b> (1992) 149:3563-3568	6.486	45	49	4
<b>Immunogenetics</b> (1992) 37:57-63	2.875	13	13	0
<b>Tissue Antigens</b> (1992) 39:249-257	1.990	29	32	3
<b>Genetics</b> (1992) 130:153- 162	4.138	236	271	35
<b>American Journal of Physical Anthropology</b> (1991) 84:141-157.	2.693	34	45	11
<b>Yearbook of Physical Anthropology</b> 1989 (1989)32:159-184.	2.000	3	3	0
<b>American Journal of Physical Anthropology</b> (1990) 81:101-112.	2.693	1	1	0
<b>Immunobiology of HLA,</b> Volume 1, Histocompatibility Testing 1987. (Springer- Verlag: New York, 1989) pp. 133-147. [Check 1987 and 1989.]	0.000	6	8	2
<b>Zoo Biology</b> (1989) 8:171-177	0.622	1	1	0
<b>American Journal of Human Genetics</b> (1988) 43:520-526.	12.340	113	157	44



<b>American Journal of Human Genetics</b> (1986) 39:409-413.	12.340	19	20	1
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<b>Yearbook of Physical Anthropology</b> (1985) 28:79-95	2.000	3	3	0
<b>American Journal of Physical Anthropology</b> (1985) 66:1-19.	2.693	88	92	4
<b>Diabetes</b> (1983) 32:774-776.	8.848	6	6	0
<b>Yearbook of Physical Anthropology</b> (1982) 25:91-112	2.000	6	6	0
<b>American Anthropologist</b> (1983) 85(1):92-102.	0.952	4	4	0
<b>American Journal of Physical Anthropology</b> (1983) 62:107-114.	2.693	73	77	4
<b>Biometrics</b> (1982) 38:757-768.	1.211	36	36	0
<b>American Journal of Physical Anthropology</b> (1981) 56:291-296	2.693	19	19	0
<b>Diabetologia</b> (1981) 21:460-463	5.583	46	47	1
<b>Vox Sanguinis</b> (1979) 37:103-106.	1.762	1	1	0
<b>Vox Sanguinis</b> (1979) 37:96-102	1.762	3	3	0
<b>Human Biology</b> (1978) 50:173-181	1.211	6	6	0
<b>British Journal of Dermatology</b> (1976) 95:163-167	2.445	26	29	3
<b>Total Citations in Science Citation Index</b>		<b>1403</b>	<b>1674</b>	<b>271</b>
<b>Cumulative Impact Score*</b>		<b>14,247</b>	<b>16,946</b>	<b>2,699</b>

\*The cumulative impact score is computed by taking the product of the number of citations for each paper and the impact factor for the journal and then summing over these.

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