

Neil Selwyn Harris

Current position, Jan 1 2002 → Present: Associate Professor, Department of Pathology, Immunology and Laboratory Medicine, Shands Hospital, University of Florida, Gainesville, Director of Clinical Core Laboratory.

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Undergraduate Education

- 1975 Bachelor of Science (Medicine) (**B.Sc.Med**) University of Cape Town, South Africa
- 1979 Bachelor of Medicine & Surgery (**M.B.Ch.B.**) University of Cape Town, South Africa

Postgraduate Education

Internship: 1980: Departments of Medicine and Surgery. Groote Schuur Hospital, Cape Town

Registrar Training (South Africa):

1981-1984: Department of Clinical Science and Immunology in the Division of Pathology; Groote Schuur Hospital, Cape Town, South Africa (University of Cape Town)

1985-1988: Department of Chemical Pathology in the Division of Pathology; Groote Schuur Hospital, Cape Town, South Africa (University of Cape Town)

1988 Doctor of Medicine (M.D.) Thesis title - " Characterization of a polypeptide factor that inhibits the growth of a human breast cancer line *in vitro*."

Fellowships

1990-1994: Research Fellow , Division of Hematology/Oncology, the Children's Hospital, Boston MA. (1990 - 1991 funded by South African MRC post-doctoral scholarship.)

1994-1996: Clinical Chemistry Fellow in the Department of Laboratory Medicine, The Children's Hospital, Boston MA.

1997-1998: Research Associate for the Whitaker Cardiovascular Institute, Boston University School of Medicine.

USA Residency Training and Credentialing in Pathology

1998-2001: Department of Pathology, Fletcher Allen Health Care, Burlington, VT (University of Vermont)

Licensure and Certification:

- 2002 Certified in Combined Anatomic and Clinical Pathology (American Board of Pathology)
- 2002 Florida Medical License (ME 84914)
- 1997 Certified by Educational Commission for Foreign Medical Graduates (ECFMG)
- 1996 Clinical Chemistry (American Board of Clinical Chemistry (ABCC).
- 1990 Chemical Pathology (South African Medical Council).
- 1981 Medical Practitioner (South African Medical Council).

US Educational Equivalent Degree: M.D., Ph.D.

Credentials assessed by ECE, Inc., P.O. Box 92970, Milwaukee, Wisconsin 53202-0970. Phone (414) 289-3400.

Clinical and other Applied Interests: Clinical Biochemistry and Hematology Including coagulation disorders and hemoglobinopathies.

Academic Appointments:

1. **2005→Present Time** (December 2008): Director, Core Laboratory [Including chemistry & diagnostic hematology], Dept. of Pathology, University of Florida College of Medicine
2. **2003.** Acting Director of Hematology (coagulation section) University of Florida College of Medicine, Department of Pathology
3. **2002.** Assistant Professor, University of Florida College of Medicine, Department of Pathology, Immunology and Laboratory Medicine. Associate Director of Clinical Chemistry.
4. **1990:** Appointed Acting Head of the Department of Clinical Science and Immunology during sabbatical leave of Department Head.
5. **1990:** Training in Chemical Pathology approved by South African Medical and Dental Council. Appointed to Consultant (Specialist or Attending) position in the Department of Clinical Science and Immunology in the Division of Pathology, Groote Schuur Hospital, Cape Town, South Africa.
6. **1988-1989:** Appointed to post of Medical Officer in the Department of Clinical Science and Immunology in the Division of Pathology.

National Affiliations:

1. Diplomate of the American Board of Clinical Chemistry since 1996.
2. Member of organizing committee for American Association of Clinical Chemistry (AACC) Update Course, Washington DC "*Professional Practice in Clinical Chemistry – A Review Course*" 2005-2009
3. Fellow member of the College of American Pathologists (CAP) – February 2005.

Awards:

1. Faculty Recognition Award (for teaching) , University of Florida College of Medicine, Department of Pathology 2004
2. Junior Investigator Award, UCT Medical School, Division of Pathology, 1982
3. Ebrahim Haematology Medal, UCT Medical School, 1979.

Research Laboratory Experience:

1976 (2 Months) Tumour Immunology Unit, University College London. (Elective student, under Prof. N.A. Mitchison)

1981-1984 Department of Clinical Science and Immunology University of Cape Town, South Africa.
 1985-1988 Department of Chemical Pathology and MRC Regulatory Peptides Research Unit. University of Cape Town, South Africa.
 1988-1990 Department of Clinical Science and Immunology. University of Cape Town, South Africa.
 1990-1994 Hematology-Oncology, The Children's Hospital, Boston.
 1994-1996 Department of Laboratory Medicine, The Children's Hospital, Boston.
 1997-1998 Whitaker Cardiovascular Institute, Boston University School of Medicine.

Teaching Experience:

Undergraduate and Post-graduate lectures or tutorials:

- 1) 2002 →Present (July 2008) Medical Student Case Study, Medical Student Lectures and Resident teaching. University of Florida College of Medicine, Department of Pathology, Immunology and Laboratory Medicine.
- 2) 2001 Laboratory Medicine, University of Vermont College of Medicine. Approximately 70 medical students. One lecture (1-2 hours).
- 3) 1997 Case presentations to Medical Students, Boston University School of Medicine. 6 medical students. 12 hours a year.
- 4) 1997 Medical Terminology Boston University. 6 undergraduates. 30 hours a year.
- 5) 1997 Anatomy & Physiology Newbury College, Department of Continuing Education, Boston MA. 13 undergraduates. 40 hours a year.
- 6) 1995-1996 Pharmacology Harvard Medical School. Tutor. 8 first year medical students. 14 hours a year.
- 7) 1989-1990 Immunology University of Cape Town. Lecturer. 2-4 science graduate students. 6 hours a year.
- 8) Immunology University of Cape Town. Lecturer. 140 medical students. 4 hours a year.
- 9) Chemical Pathology Cape Technicon (Technical College). Lecturer. 100 medical technologists. 4 hours a year.
- 10) 1986-1988 Biochemistry University of Cape Town. Lecturer. 15 science graduate students BSc (Hons). 2 hours a year.
- 11) 1985-1988 Chemical Pathology University of Cape Town, Tutor. 30 medical students. 25 hours a year.
- 12) 1981-1984 Immunology University of Cape Town. Lecturer. 5 science undergraduate students. 15-20 hours a year.

Advising responsibilities:

- 1988-1990: 10 Medical technologists in a routine diagnostic Laboratory.
 1990: 1 graduate student (research project).
 1994: 1 undergraduate student (research project).
 2002- 2008: Pathology Residents, University of Florida

PUBLICATIONS

BOOKS, CONTRIBUTOR OF CHAPTER(S):

1. DePalma L, Harris NS and Dayton V. *Coagulation Testing*. Section IVB, pp 315-328.. *In Self-Assessment in Clinical Laboratory Science II*, Alan H. B. Wu, 2008 (AACC Press, Washington DC)
2. Harris NS, Dayton V, Perkins S and Nambiar A. *Hematology, Hemoglobinopathies, and Blood bank/Transfusion Medicine*. Section IVC, pp 329-363. *In Self-Assessment in Clinical Laboratory Science II*, Alan H. B. Wu, 2008 (AACC Press, Washington DC)

3. Winter WE and Harris NS. *Laboratory Approaches to Diseases of the Adrenal Cortex and Adrenal Medulla*. Chapter 4, pp 75-137. In *Handbook of Diagnostic Endocrinology* 2nd edition, Winter, WE, Sokoll LJ and Jialal, I. 2008 (AACC Press, Washington DC).
4. Winter WE and Harris NS. *Laboratory Evaluation of Endocrine Hypertension*. Chapter 6, pp 175-210. In *Handbook of Diagnostic Endocrinology* 2nd edition, Winter, WE, Sokoll LJ and Jialal, I. 2008 (AACC Press, Washington DC)
5. Winter WE and Harris NS. *Evaluation of Hyperglycemia*. Chapter 9, pp 265-294. In *Handbook of Diagnostic Endocrinology* 2nd edition, Winter, WE, Sokoll LJ and Jialal, I. 2008 (AACC Press, Washington DC)
6. Winter WE and Harris NS. *Evaluation of Hypoglycemia*. Chapter 10, pp 294-321. In *Handbook of Diagnostic Endocrinology* 2nd edition, Winter, WE, Sokoll LJ and Jialal, I. 2008 (AACC Press, Washington DC)
7. Harris NS and Winter WE. *Hemoglobinopathies - Biochemical Disorders Of Hemoglobin*. Chapter 18, pp 213-225. *Contemporary Practice in Clinical Chemistry*, Clarke, W. and Dufour, R.D. 2006 (AACC Press, Washington DC)
8. Harris NS, Winter WE and Ledford-Kraemer MR. *Assessment Of Hemostasis In The Clinical Laboratory*. Chapter 19, pp 227-239. *Contemporary Practice in Clinical Chemistry*, Clarke, W. and Dufour, R.D. 2006 (AACC Press, Washington DC)
9. Winter WE and Harris NS. *Carbohydrate Disorders*. Chapter 25, pp 289-298. *Contemporary Practice in Clinical Chemistry*, Clarke, W. and Dufour, R.D. 2006 (AACC Press, Washington DC)
10. Winter WE and Harris NS. *Calcium Biology and Disorders*. Chapter 34, pp 387-398. *Contemporary Practice in Clinical Chemistry*, Clarke, W. and Dufour, R.D. 2006 (AACC Press, Washington DC)
11. Harris, N. and Ezekowitz, R.A.B. *The role of pattern recognition molecules in mammalian immunity*. In *Phylogenetic Perspectives in Immunity: The Insect Host Defense*. Hofmann, J.A., Janeway, Jr., C.A., and Natori, S. (eds). R.G. Landes, Austin/Georgetown, Texas. pp 123-131 (1994).
12. Harris, N.S., Wilcox, J.N., Dutlow, C.M., Flanagan, C.A., Prescott, R.A., Roberts, J.L., Eidne, K.A., Millar, R.P. *A putative autocrine role for GnRH in mammary carcinoma cell lines*. *Progress in Cancer Research and Therapy*. In *Hormones and Cancer* 3, vol 35, Bresciani, F., King, R.J.B., Lippman, M.E., Raynaud, J-P. (eds). Raven Press Ltd., New York pp 174-176 (1988).

PEER-REVIEWED PUBLICATIONS:

1. Rosenberg AF, Zumberg, M, Taylor L, LeClaire A and Harris N. The Use of Anti-Xa Assay to Monitor Intravenous Unfractionated Heparin Therapy. *Journal of Pharmacy Practice OnlineFirst*, published on May 6, 2010 as doi:10.1177/0897190010362172
2. Redman R, Shunkwiler SM, Harris NS, Kedar A and Clapp WL. Sebastian Syndrome with Abnormal Platelet Response to Ristocetin. *Laboratory Hematology* 2008;14(3):19-23

3. Slayton WB, Patel M, Sola-Visner M, Harris N, Rivers A, Montgomery RR, and Friedman KD. Type 2B von Willebrand disease associated with the release of platelet aggregates from megakaryocytes in the bone marrow. *Journal of Pediatric Hematology/Oncology* 2008, 30(9):708-11.
4. Harris N., Kunicka J and Kratz A. The ADVIA 2120 Hematology System: Flow Cytometry–Based Analysis of Blood and Body Fluids in the Routine Hematology Laboratory. *Laboratory Hematology* 2005, 11:47-61.
5. Harris N, Jou JM, Devoto G *et al.* Performance Evaluation of the ADVIA 2120 Hematology Analyzer: An International Multicenter Clinical Trial. *Laboratory Hematology* 2005, 11:62-70.
6. Winter, WE, Harris N and Schatz D. Type 1 Diabetes Islet Autoantibody Markers. *Diabetes Technology & Therapeutics* 2002, 4 817-839
7. Ticho BS. Neufeld EJ. Newburger JW. Harris N. Baker A. Rifai N. Utility of direct measurement of low-density lipoprotein cholesterol in dyslipidemic pediatric patients. *Archives of Pediatrics & Adolescent Medicine.* 1998, 152 787-791
8. Harris N, Galpchian V, Thomas J, Iannotti E, Law T and Rifai N. Performance of three generations of high density lipoprotein cholesterol assays compared to the ultracentrifugation/dextran sulfate-Mg²⁺ method. *Clin. Chem.* 1997; 43: 816-823
9. Harris, N., Neufeld E.J., Newberger J.W., Ticho, B., Baker, A., Ginsburg, G., Rimm, E. and Rifai, N. Analytical performance and clinical utility of the direct LDL cholesterol assay in a hyperlipidemic pediatric population. *Clin. Chem.* 1996; 42: 1182-1188.
10. Harris, N., Galpchian, V. and Rifai, N. A comparison between three routine methods for the measurement of HDL cholesterol and the reference method. *Clin. Chem.* 1996; 42: 738-743.
11. Rifai, N., Sakamoto, M., Law, T., Galpchian, V., Harris, N., and Colin, A.A. Use of a rapid HPLC assay for the determination of pharmacokinetic parameters of ibuprofen in patients with cystic fibrosis. *Clin. Chem.* 1996; 42: 1812-1816.
12. Harris, N., Chmil, M.E., Law, T., and Rifai, N. Evaluation of the APEC analyzer for whole blood glucose; Testing in a pediatric setting. *Am. J. Clin. Path.* 1995; 104: 477-479.
13. Harris, N., Peters, L.L., Eicher, E.M., Rits, M., Raspberry, D., Eichbaum, Q.G., Super, M., and Ezekowitz, R.A.B. The exon-intron structure and chromosomal localization of the mouse macrophage mannose receptor gene *Mrc1*. Identification of a Ricin-like domain at the N-terminus of the receptor. *Biochem. and Biophys. Res. Comm.* 1994; 198: 682-692.
14. Harris, N., Super, M., Rits, M., Chang, G., Ezekowitz, R.A.B. Characterization of the murine macrophage mannose receptor: Demonstration that the downregulation of receptor expression mediated by interferon-gamma occurs at the level of transcription. *Blood* 1992; 80: 2363-2373.
15. Stein, M., Keshav, S., Harris, N., Gordon, S. Interleukin 4 potently enhances murine macrophage mannose receptor activity: A marker of alternative immunologic macrophage activation. *J. Exp. Med.* 1992; 176: 287-292.

16. Laubscher, T. A., Harris, N., Chalton, D.O. The mitogenic effects of sera from psoriatic subjects on normal dermal fibroblasts: an absence of correlation with the clinical activity of psoriasis. *British Journal of Dermatology* 1991; 124: 163-167.
17. Harris, N., Dutlow, C., Eidne, K., Dong, K-W., Roberts, J., Millar, R. Gonadotropin-releasing hormone gene expression in MDA-MB-231 and ZR-75-1 breast carcinoma cell lines. *Cancer Research* 1991; 51: 2577-2581.
18. Cooper, D.K.C., Harris, N.S., Rose, A.G, Novitsky, D. Accelerated cardiac allograft rejection associated with administration of liver cell extract in the baboon. *Transplantation Proceedings* 1990; 22: 1966-1969.
19. Eidne, K.A., Flanagan, C.A., Harris, N.S., Millar, R.P. Gonadotropin-releasing hormone (GnRH)-binding sites in human breast cancer cell lines and inhibitory effects of GnRH antagonists. *J. Clin. Endocrinology & Metabolism* 1987; 64: 425-432.
20. Milton, R.C. de L., Harris, N., Adams, G., Dowdle, E.B. A monoclonal antibody to the platelet IIb-IIIa glycoprotein complex. *South African Journal of Science* 1986; 82: 261-265.
21. Basch, R.S., Grausz, D., Harris, N., Mitchison, N.A. Murine Leukemia virus-associated cell surface antigens in rats neonatally infected with Gross murine leukemia virus. *J. National Cancer Institute*. 1979; 63: 1485-1492.

NON-REFEREED PUBLICATIONS

1. Winter, WE, Harris NS. MCT8 mutations cause defective cellular uptake of thyroid hormones. *Advance/Laboratory*. 2008, 17(6): 46-50
2. Winter, WE, Harris NS. The metabolic syndrome debate. *Advance/Laboratory*. 2008 17(3):16-18 (part 1); 17(4):14-16 (part 2).
3. Winter, WE, Harris NS. Anti-coagulant monitoring in the core lab. *Advance/Laboratory*. 2008 17(3):54-61.
4. Winter WE, Harris NS. Coagulation basics for Clinical Chemists. *Advance/Laboratory*. 2006, 15(10):54-60
5. Harris NS and Winter WE. The Chemical Pathology of Insulin Resistance and the Metabolic Syndrome. *Medical Laboratory Observer* 2004, 36(10): 20-25
6. Winter, WE and Harris NS. Perspectives in Pathology: Tumor Markers in Thyroid Cancer, Parts 1-3. *Advance/Laboratory* 2004-2005. 13(11):18, 14(1): 18, 14(2): 18
7. Winter, W.E., Harris, N.S. Bone markers in osteoporosis. *Advance/Laboratory* 2003, 12(7):42-52.
8. Winter, W.E. and Harris, N.S. Self-monitoring of blood glucose: needless expense or a vital glycemic monitor? *Point of Care* 2003, 2:62-68.
9. Winter, WE, Harris N and Schatz D. Immunological Markers in the Diagnosis and Prediction of Autoimmune Type 1a Diabetes. *Clinical Diabetes* 2002, 20: 183-191.

10. Harris, N. Growth factors and breast cancer. South African J. of Continuing Medical Education. 1988; 6: 77.

ABSTRACTS

1. Cardona D, Reith JD, Gibbs CP and **Harris N**. Early Onset Cataracts, Bilateral Achilles Tendon Xanthomas and Neurologic Deficits in a 42 year-old Woman. College of American Pathologists (CAP), Annual Meeting, September 2007
2. Grier D, Lottenberg, R, Cardona, DM, Ostrov, DA, Chui DHK, **Harris, NS**. Case Study: Hemoglobin Oleander combined with Sickle Hemoglobin. College of American Pathologists (CAP), Annual Meeting, September 2007
3. **Harris N**, Dutlow C., Eidne K, Wilcox J and Millar RP. Mechanisms of GNRH and GnRH analogue actions in neoplasia. 3rd International Congress on Hormones and Cancer. Hamburg, Federal Republic of Germany, September 1987
4. Eidne K A, Flanagan C, **Harris N**, Prescott R and Millar RP. GnRH binding sites in human breast cancer cell lines: Inhibitory effects of GnRH antagonists. 26th Annual Pathology Congress, UCT, 1986 and 23rd SEMDSA meeting, Cape Town, October 1986
5. **Harris N**, Eidne K, Paul M and Millar RP. GnRH-like peptides in mammary carcinoma cell lines; Evidence for an autocrine regulatory role. 26th Annual Pathology Congress, UCT, 1986 and 23rd SEMDSA meeting, Cape Town, October 1986
6. Milton, R.C. de L., **Harris, N.**, Adams, G., Dowdle, E.B. Characterization of a monoclonal antibody to the platelet IIb, IIIa glycoprotein.. 22nd Annual Congress of the South African Society of Pathologists, Stellenbosch, July 1982

TALKS GIVEN AT NATIONAL MEETINGS

AACC Educational Updates

Professional Practice in Clinical Chemistry - A Review and Update. Washington, DC April 22-26, 2007

1. Complete Blood Count
2. Anemias
3. Chemical Pathology Of Iron Balance
4. Hemoglobinopathies
5. Electrophoresis I: Basic electrophoresis
6. Electrophoresis II: IFE and capillary electrophoresis

Professional Practice in Clinical Chemistry - A Review and Update. Alexandria, VA May 15-19, 2005

1. Basic Hematology
2. Hemoglobinopathies
3. Proteins (2) - Pathologic Associations of Monoclonal Gammopathies

AACC National Summer Meetings

1. Bertholf R, Harris NS and Winter WE. Controversies in Thyroid Function Testing and Interpretation. 7/30/08
2. Harris NS and Winter WE. Anticoagulant Monitoring: Traditional Anticoagulants, Low Molecular Weight Heparin, Fondaparinux and Direct Thrombin Inhibitors 7/29/08
3. Harris NS and Winter WE. Transitioning to the Core Laboratory II: Anti-coagulant Monitoring: Traditional Anticoagulants, Low Molecular Weight Heparin and Direct Thrombin Inhibitors.7/16/2007
4. Harris NS and Winter WE. Transitioning to the Core Laboratory I: A Primer on Coagulation Testing and Disorders; 7/16/2007
5. Harris NS and Winter WE. The Clinical Chemistry professional Transitioning to the Core Laboratory: A Primer on Coagulation Testing and Disorders 7/25/2006
6. Harris NS The Chemical Pathology of the ATP Binding-Cassette (ABC) Protein family in Humans 7/27/2005
7. Harris NS and Winter WE. A Coagulation Primer for the Chemistry Professional Transitioning to the Core Laboratory 7/26/2005
8. Harris NS and Winter WE. Glucose, Lipids and Atherogenesis: Understanding the Laboratory Evaluation of the Metabolic Syndrome 7/27/04
9. Harris NS The Chemical Pathology of the ATP Binding-Cassette (ABC) Protein family in Humans 7/26/04
10. Harris NS and Winter WE. Glucose, Lipids and Atherogenesis: Understanding the Laboratory Evaluation of the Metabolic Syndrome 7/23/03