

## Curriculum Vitae

Name: Arthur A. DeCarlo, Jr., D.D.S., Ph. D.

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### EDUCATION:

- 1994 Doctor of Philosophy degree, Dept. of Biochemistry and Molecular Genetics, University of Alabama at Birmingham. Mentor: Henning Birkedal-Hansen.
- 1992 Certificate, Periodontal Surgery, University of Alabama at Birmingham.
- 1985 Certificate, Post-Graduate Training Program in General Dentistry, The Eastman Dental Center, Rochester, New York.
- 1984 Doctor of Dental Surgery degree, Baltimore College of Dental Surgery, University of Maryland, Baltimore, MD.
- 1980 Bachelor of Science degree, major in General Biology with minor in Psychology, College of Arts and Sciences, University of Maryland, College Park, MD.
- 1976-77 College of Arts and Sciences, Washington & Lee University, Lexington, Virginia.

### APPOINTMENTS AND PROFESSIONAL EXPERIENCE:

- 2008-2009 Participant, NIH Commercialization Acceleration Program
- 2008-2009 FDA Phase I/II Safety Review Committee, Vaxin, Inc. Sponsor
- 2008 Institutional Biosafety Committee Member, Vaxin, Inc.
- 2008 NIH SBIR/STTR Scientific Review Panel Member

- 2008- CEO of Bonenta, Inc., a Delaware Corporation.
- 2006- Member, External Advisory Committee, Department of Biomedical Engineering, College of Engineering, University of Alabama at Birmingham
- 2002-05 Chairman, Health Professions Division Research Committee, Nova Southeastern University
- 2002-05 Director of Biologic Research, College of Dental Medicine, Nova Southeastern University
- 2001-05 Associate Professor, Nova Southeastern University College of Dental Medicine, Ft. Lauderdale, Florida.
- 2000- President and Chief Science Officer, Agenta Biotechnologies, Inc.
- 1999-2001 Part-time Adjunct Assistant Professor Department of Periodontics, University of Alabama at Birmingham, Birmingham, Alabama.
- 1998-99 Senior Dental Specialist, Department of Periodontics, United Dental Hospital, Sydney, Australia.
- 1998-99 Post-doctoral Visiting Research Scientist, Institute of Dental Research, Sydney Central Health Services, Sydney, Australia.
- 1996-97 Post-doctoral fellow, Department of Microbiology, University of Alabama at Birmingham, Birmingham, Alabama.
- 1996-2001 Private periodontal practice, part-time, Norwood Clinics, 1528 Carraway Blvd., Birmingham, AL 35283.
- 1996-2001 Private periodontal practice, part-time, office of Dr. H. Wehby, 2121 14<sup>th</sup> Ave. S., Birmingham, AL 35205
- 1995-2004 Associate Scientist, Cell Adhesion and Matrix Research Center, University of Alabama at Birmingham, Birmingham, Alabama.
- 1994-96 Assistant Professor, Department of Periodontics, University of Alabama at Birmingham, Birmingham, Alabama.
- 1993-94 Full-time Clinical Instructor, Department of Periodontics, University of Alabama at Birmingham, Birmingham, Alabama.

- 1987-88 Part-time Clinical Instructor, Department of General Dentistry, University of Alabama at Birmingham, Birmingham, Alabama.
- 1985-86 Associate, Drs. Katz, Spagg and Campo, private practice, Rochester, New York.
- 1985-86 Associate, Diversified Dental Services, Rochester, New York.
- 1984-85 The Strong Memorial Hospital, Dental Service, Rochester, New York.
- 1984-85 The Eastman Dental Center, General Dentistry Dept., Rochester, New York.

### **HONORS AND AWARDS:**

- 2007 Elected to the Birmingham Venture Club Accelerator Program for most promising regional entrepreneurs.
- 2005 Keynote Speaker, College of Arts and Sciences Student Research Symposium and Humanities Festival, Nova Southeastern University. A Life of Discovery and Creativity.
- 1996 Winner of the "Presidents Excellence in Teaching Award", School of Dentistry, University of Alabama at Birmingham, Birmingham, Alabama.
- 1995 Young Investigator Fellowship, American Academy of Periodontology.
- 1994 Billy Pennel Award Winner, first place, basic science category Southern Academy of Periodontics.
- 1994 IADR Hatton Award Winner, first place, post-doctoral category.
- 1990- Dentist-Scientist Award, Institutional Award, Department of Periodontics and Department of Biochemistry, University of Alabama at Birmingham.
- 1988-89 Fellowship Award to Prospective Dentist-Scientist Candidates, University of Alabama at Birmingham.

### **FUNDED GRANTS:**

- 2010-2011 Nucleic acid delivery of growth factors and heparan sulfate proteoglycans for enhanced healing of skin wounds.  
Principle Investigator: Dr. April Ellis  
Funding Agency: NIH/NIAMS R43AR056886-01A2

- 2009-2011 “Molecular Heparan Sulfate Delivery in Guided Tissue Regeneration  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: NIH/NIDCR 1 R44 DE017254
- 2007-2009 “Molecular Heparan Sulfate Delivery in Wound Regeneration”  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: NIH/NIDCR 1R44 DE 016771
- 2007-2008 “Molecular Heparan Sulfate Delivery in Guided Tissue Regeneration  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: NIH/NIDCR 1 R43 DE017254-01A1
- 2006-2007 “Molecular Probes for Heparanase-Digested Proteoglycans”  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: NIH/NIGM 1R43 GM 078736
- 2005-2006 “Molecular Heparan Sulfate Delivery in Wound Regeneration”  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: NIH/NIDCR 1R43 DE 016771
- 2003-2005 “Molecular Relationships Between Periodontal Disease and Heart  
Disease”  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: Nova Southeastern University; President’s Faculty  
Research and Scholarship Development Grant
- 2001-2003 “Periodontal Disease and Other Diabetes Complications  
Principle Investigator: Dr. Arthur DeCarlo  
Funding Agency: Nova Southeastern University; President’s Faculty  
Research and Scholarship Development Grant
- 2001-2002 “Development of an HA2 Domain Based Periodontitis Vaccine.”  
Principal Investigator: Dr. Arthur A. DeCarlo.  
Funding Agency: NIH/NIDCR 1 R43 DE 014013-01  
SBIR phase 1
- 2000-2005 “Plasminogen Activators in Periodontitis and Diabetes.”  
Principal Investigator: Dr. Arthur A. DeCarlo.  
Funding Agency: NIH/NIDCR 1 R01 DE 013092-01 A1

**PATENT ACTIVITY:**

- 2009 US patent #7,488,719 "Wound and Cutaneous Injury Healing with a Nucleic Acid Encoding Perlecan"

Inventors: Arthur DeCarlo, John Whitelock  
Assignment: Agenta Biotechnologies, Inc.  
Status: issued

2008 WIPO patent PCT/US08/06139 (filed 5/14/2008). "Wound and Cutaneous Injury Healing with a Nucleic Acid Encoding Perlecan"  
Inventors: Arthur DeCarlo, John Whitelock, April Ellis  
Assignment: Agenta Biotechnologies, Inc.  
Status: pending

2007 US patent 11/604,633 (filed 11-27-06) as a continuation in part of US patent #7,141,551  
Inventors: Arthur DeCarlo, John Whitelock,  
Assignment: Agenta Biotechnologies, Inc.  
Status: pending

2006 "US patent #7,141,551 "Wound and Cutaneous Injury Healing with a Nucleic Acid Encoding Perlecan"  
Inventors: Arthur DeCarlo and John Whitelock  
Assignment: Agenta Biotechnologies, Inc.  
Status: issued

2003 "Immunization Against Periodontitis with the HA2 Hemoglobin Binding Domain of *Porphyromonas gingivalis*"  
Inventors: Arthur DeCarlo and Neil Hunter  
Assignment: none  
Status: patent pending

2005 "Detecting Genetic Risk for Periodontal Disease"  
Inventors: Arthur DeCarlo  
Assignment: Agenta Biotechnologies, Inc.  
Status: patent pending; priority date Jan. 18th, 2005

## **PUBLICATIONS:**

Lyons, J. G., Lin, H.-Y., Salo, T., Larjava, H., **DeCarlo, A. A.**, Birkedal-Hansen, B. and Birkedal-Hansen, H.: Expression of Collagen-Cleaving Matrix Metalloproteinases by Keratinocytes. Effect of Growth Factors and Cytokines and of Microbial Mediators. In *Periodontal Disease: Pathogens and Host Immune Responses*, Quintessence Publishing Co. Ltd. (Tokyo), 1991.

Birkedal-Hansen, H., Moore, W. G. I., Bodden, M.K., Windsor, L. J., Birkedal-Hansen, B., **DeCarlo, A.**, Engler, J. A.: Matrix Metalloproteinases: A Review. *Critical Reviews in Oral Biology*, 4(2): 197-250 1993.

Jeffcoat, M. K., Reddy, M. S., **DeCarlo, A. A.**: Oral Bone Loss and Systemic Osteopenia. In *Osteoporosis*, Academic Press, 1996; pp 969-990.

**DeCarlo, A. A.**, Harber, G. J.: Hemagglutinin activity and heterogeneity of related *Porphyromonas gingivalis* proteinases. *Oral Microbiology and Immunology*, 12(1): 47-56, 1997.

**DeCarlo, A. A.**, Windsor, L. J., Bodden, M. K., Moore, W. G., Harber, G. J., Birkedal-Hansen, B., Birkedal-Hansen, H.: Activation and novel processing of matrix metalloproteinases by a thiol-proteinase from the oral anaerobe *Porphyromonas gingivalis*. *Journal of Dental Research*, 76(6): 1260-1270, 1997.

**DeCarlo, A. A.**, Grenett, H. E., Harber, G. J., Windsor, L. J., Bodden, M. K., Birkedal-Hansen, B., Birkedal-Hansen, H.: Induction of Matrix Metalloproteinases and a Collagen-Degrading Phenotype in Fibroblasts and Epithelial Cells by Secreted *Porphyromonas gingivalis* Proteinase, *Journal of Periodontal Research*, 33(7): 408-420, 1998.

Pickett, K. L., Windsor, L. J., Alexander, D. L., **DeCarlo, A. A.**, Louis, P., Engler, J. A., Harber, G. J., Bodden, M. K.: 92K-GL (MMP-9) and 72K-GL (MMP-2) are produced in vivo by human oral squamous cell carcinomas and can enhance FIB-CL (MMP-1) activity in vitro. *Journal of Dental Research*, 78(7): 1354-1361, 1999.

**DeCarlo, A. A.**, Paramasvaran, M., Yun, P., Collyer, C., Hunter, N.: Porphyrin-mediated binding to hemoglobin by the HA2 domain of cysteine proteinases (gingipains) and hemagglutinins of the periodontal pathogen *Porphyromonas gingivalis*. *Journal of Bacteriology*, 181(12): 3784-3791, 1999.

Yun, P., **DeCarlo, A. A.**, Hunter, N.: Inactivation of gamma interferon by *P. gingivalis* gingipains. *Infection and Immunity*, 67(5): 2986-2995, 1999.

**DeCarlo, A. A.**: Polydomain cysteine proteinases (gingipains) of the periodontal pathogen *Porphyromonas gingivalis*: direct effects and host responses [Review], *Australian Journal of Periodontology*, 20(1); 12-21, 1999.

Baron, A. C., **DeCarlo, A. A.**, Featherstone, J. D. B.: Functional Aspects of the Human Salivary Cystatins in the Oral Environment. *Oral Diseases*, 5: 234-240, 1999.

Yun, P. L. W., **DeCarlo, A. A.**, Collyer, C., and Hunter, N.: Hydrolysis of IL-12 by *P. gingivalis* major cysteine proteases may affect local IFN-gamma accumulation and the Th1/Th2 T-cell phenotype in periodontitis. *Infection and Immunity*, 69(9); 5650-5660, 2001.

Yun, P. L. W., **DeCarlo, A. A.**, Collyer, C., and Hunter, N.: Modulation of an interleukin-12 and interferon-gamma synergistic feedback regulatory cycle of T-cell/monocyte co-cultures

- by *Porphyromonas gingivalis* lipopolysaccharide in the absence or presence of cysteine proteinases. *Infection and Immunity*, 70(10); 5695-5705, 2002.
- DeCarlo, A. A.**, Y. Huang, C. Collyer, D. Langley, & J. Katz; Feasibility of an HA2 based periodontitis vaccine. *Infection and Immunity*, 71(1); 562-566, 2003.
- Ye P., Harty D. W., Chapple C. C., Nadkarni M. A., **DeCarlo A. A.**, Hunter N.; *Streptococci* and *Actinomyces* induce antibodies which cross react with epithelial antigens in periodontitis. *Clinical Experimental Immunology*, 131(3):468-476, 2003.
- Paramaesvaran, M., Nguyen, K.-A., Caldon, E., McDonald, J. A., Najki, S., Gonzaga, G., Langley, D. B., **DeCarlo, A.**, Crossley, M. J., Hunter, N., Collyer, C. A.: Porphyrin-mediated cell surface heme capture from hemoglobin by *Porphyromonas gingivalis*. *Journal of Bacteriology*, 185(8); 2528-2537, 2003.
- L. W. P. Yun, **DeCarlo, A. A.**, Collyer, C., Hunter, N. Enhancement of Th2 pathways and direct activation of B cells by the gingipains of *Porphyromonas gingivalis*. *Journal of Experimental Immunology*, 134(2): 295-302, 2003.
- Nguyen, K.-A., **DeCarlo, A. A.**, Paramaesvaran, M., Collyer, C. A., Langley, D. B., and Hunter, N. Humoral responses to *Porphyromonas gingivalis* gingipain adhesin domains in subjects with chronic periodontitis. *Infection & Immunity*. 72(3):1374-1382, 2004.
- DeCarlo, A. A.**, Nadkarni, M., Paramaesvaran, M., Yun, P. W., Collyer, C. A., and Hunter, N. Serum antibodies against the hemoglobin binding domain (HA2) of *Porphyromonas gingivalis*. *Journal of Periodontal Research*, 39(4):228-235, 2004.
- Nadkarni, M. A., Nguyen, K.-A., Chapple, C. C., **DeCarlo, A. A.**, Jacques, N. A., and Hunter, N. Distribution of *P. gingivalis* biotypes defined by alleles of the *kgp* gene. *Journal of Clinical Microbiology*. 42(8):3873-3876, 2004.
- Rautemaa, R., Järvensivu, A. K., Wahlgren, J., **DeCarlo, A.**, Richardson, M., Sorsa, T. Intracellular localization of *Porphyromonas gingivalis* thiol proteinase in periodontal tissues of chronic periodontitis patients. *Oral Diseases* 10(5): 298–305.
- Ye, P., Simonian, M., Nadkarni, M. A., **DeCarlo, A. A.**, Chapple, C. C., and Hunter, N. Identification of epithelial auto-antigens associated with periodontal disease. *Clinical and Experimental Microbiology*. 39(2):328-37, 2005.
- L. W. P. Yun, **DeCarlo, A. A.**, Chapple, C. C., Collyer, C. A., Hunter, N. Binding of *Porphyromonas gingivalis* gingipains to human CD4+ T cells preferentially down-regulates surface CD2 and CD4 with little affect on co-stimulatory molecule expression. *Microbial Pathogenesis* 38:85-96, 2005.

L. W. P. Yun, **DeCarlo, A. A.**, Chapple, C. C., Hunter, N. Functional implication for the pathology of periodontal disease of the hydrolysis of PECAM-1 (CD31) by gingipains of *Porphyromonas gingivalis*. *Infection and Immunity*; 73:1386-1398, 2005.

**DeCarlo, A. A.**, and Whitelock, J. M. The role of heparan sulfate and perlecan in bone regenerative procedures. *Journal of Dental Research*; 85(2):122-132, 2006.

L. W. P. Yun, **DeCarlo, A. A.**, Hunter, N. Gingipains of *Porphyromonas gingivalis* modulate leukocyte adhesion molecule expression induced in human endothelial cells by ligation of CD99. *Infection and Immunity*; 74(3): 1661-1672, 2006.

**DeCarlo, A. A.**, Grenett, H., Park, J., Balton, W., Cohen, J., Hardigan, P. Association of gene polymorphisms of plasminogen activators with alveolar bone loss *Journal of Periodontal Research*; 42(4): 305-310, 2007.

L. W. P. Yun, **DeCarlo, A. A.**, Hunter, N. Blockade of protease-activated receptors on T cells correlates with altered proteolysis of CD27 by gingipains of *Porphyromonas gingivalis*. *Clinical & Experimental Immunology* **150**:217-229, 2007

**DeCarlo, A. A.**, Cohen, J. A., Aguado, A. and Glenn, B.; Isolation and Characterization of Human Gingival Microvascular Endothelial Cells. *Journal of Periodontal Research*; 43; 246-254, 2008.

Li, L, Michel, R, Cohen, J, **DeCarlo, A. A.**, and Kozarov, E. ; Intracellular survival and vascular cell-to-cell transmission of *Porphyromonas gingivalis*. *BMC Microbiology*, **8**:26, 2008

April L. Ellis, Wensheng Pan, Guang Yang, Kim Jones, Christine Chuang, John M. Whitelock, **Arthur A. DeCarlo**; Similarity of Recombinant Human Perlecan Domain 1 by Alternative Expression Systems. *BMC Biotechnology*, 2010 Sep 9;10(1):66. [Epub ahead of print]

### **ABSTRACTS OTHER THAN CITED ABOVE**

ANDISON, M. E., SIEGWART, J. T., **DECARLO, A. A.**, LEONARD, C. L., NORTON, T. T.: Identification of gelatinase-A, stromelysin-1, and decorin mRNA in tree shrew sclera [ARVO Abstract]. *Invest. Ophthalmol. Vis. Sci.*, 40: 1999.

Association of Diabetic Retinopathy with Other Diabetes Complications; DAWN K. **DECARLO**, WILLIAM BALTON, JULIE TYLER, JEFF STARKMAN, SCHMUL STERN, CHRIS GORDON, PATRICK HARDIGAN, AND **ARTHUR A. DECARLO**. Accepted for presentation and publication as an abstract for the American Academy of Optometry meeting, 2003.

Oral Cancer Screening Program: A Pilot Study; NORYS PEREZ, INES VELEZ, PAUL BRADLEY, **ARTHUR A. DECARLO**. Presented at the 2002 AADR meeting in San Antonio, TX. Published in the Journal of Dental Research Abstract Supplement, 2002.

Histatin Levels in Salivary Secretions of Periodontitis Patients; B. FLORA , Y. GUERRA , R.E. RODRIGUES , C.D. GALIN , F.G. OPPENHEIM , and **A.A. DECARLO**.

Presented at the 2002 AADR meeting in San Antonio, TX. Published in the Journal of Dental Research Abstract Supplement, 2002.

Differential Activity of *Porphyromonas gingivalis* -secreted Proteins toward Polarized Human Endothelial Cells; E.V. KOZAROV, L. LI, R. MICHEL, R.E. RODRIGUEZ, and **A.A. DECARLO**. Presented at the 2003 IADR meeting, Gothenburg, Sweden. Published in the Journal of Dental Research Abstract Supplement, 2003.

Proteoglycan Bioactivation of Barrier Membranes in GTR Improve Healing.; A. L. ELLIS, **A.A. DECARLO**. Presented at the 2008 International Association for Dental Research Meeting and published in the Journal of Dental Research Abstract Supplement, 2008.

### **RESEARCH PRESENTATIONS:**

- 2008            Gene Delivery of Heparan Sulfate Proteoglycan Core Enhances Bone Regeneration, presented at the 37<sup>th</sup> Annual American Academy of Dental Research Meeting, Dallas, TX.
  
- 2006            A Molecular Approach to a Periodontitis Vaccine, presented at the 2006 SEBIO Venture Conference, Raleigh, NC.
  
- 2005            Presentation of abstract, IADR meeting, Baltimore, MD; Gingival Endothelial Cells Express Plasminogen Activators and Collagen 4 in Culture
  
- 2005            Presentation of abstract, IADR meeting, Baltimore, MD; Genomic Polymorphisms for PAI-1 and uPA Predict Severity of Adult Periodontitis
  
- 2005            Presentation of abstract, IADR meeting, Baltimore, MD; Serum PAI-1 Antigen Levels, Periodontal Disease, and Heart Disease
  
- 2005            Detecting Genetic Risk for Periodontal Disease, presented at the 2<sup>nd</sup> Annual Florida Tech Transfer Conference, Orlando, Florida.
  
- 2004            Invited Speaker, NIDCR, Bethesda, MD; Plasminogen activator genomic polymorphisms in periodontitis and related maladies
  
- 2004            Presentation of abstract, IADR meeting, Honolulu, HI; Periodontitis Severity Associated with low Urine pH in Diabetics
  
- 2004            Invited speaker, "Development of an HA2 Domain-Based Periodontitis Vaccine (Immunotherapy)". Florida Research Consortium, 1st Florida Technology Transfer Meeting, St. Petersburg, Florida, May 17 and 18, 2004.

- 2004 Invited speaker, "Development of an HA2 Domain-Based Periodontitis Vaccine (Immunotherapy)". BioFlorida's 7<sup>th</sup> Annual Conference, Boca Raton, November 17 and 18, 2004.
- 2004 Presentation of abstract, IADR meeting, Honolulu, HI; Relationship of Serum PAI-1 Levels, Periodontitis, and other Diabetes Complications
- 2003 Invited speaker, The Gingival Microvasculature in Diabetes and Periodontitis. Presented to the Eastman Dental College, London, England, July 2<sup>nd</sup>, 2003
- 2003 Presentation of abstract, IADR meeting, Gothenburg, Sweden; Alterations in Blood Vessels in Diabetics; an immunohistochemical analysis
- 2003 Presentation of abstract, IADR meeting, Gothenburg, Sweden; Isolation and Characterization of Gingival Endothelial Cells
- 2002 Presentation of abstract, IADR meeting, San Antonio, Texas; Diabetic angiopathies: Experimental roles for urokinase and PAI-1 activity, glucose levels, serum, and collagen in angiogenesis
- 1998 Presentation of paper, Institute of Dental Research Seminar Series, Sydney, Australia; Epitope of monoclonal antibody 5A1 within the hemoglobin-binding domain of *Porphyromonas gingivalis* gingipains.
- 1997 Invited speaker, Microbiology and Immunology Research Group, Sarasota, FL; Immune Modulation of Collagen-Degrading Activity in Human PMNs and Monocytes.
- 1997 Invited speaker, Gordon Conference on Periodontal Disease, New England College, NH; Immune Modulation of Collagenase Release.
- 1996 Presentation of abstract, IADR meeting, San Francisco, CA; Cell-Association and Derivation of Thiol-Proteinases from *Porphyromonas gingivalis* 33277.
- 1994 Invited speaker, Southern Academy of Periodontology meeting, New Orleans, LA; Collagen Degrading Behavior in Epithelial Cells Stimulated with *Porphyromonas gingivalis*: investigation of matrix metalloproteinase involvement.
- 1994 Invited speaker, Gordon Conference on Periodontal Diseases, Henniker, NH; Regulation of expression and activity of keratinocyte metalloproteinases by thiol-proteinase from *Porphyromonas gingivalis*.

- 1994 Presentation of an abstract, IADR meeting, Seattle, WA; Activation and molecular processing of matrix metalloproteinases by *Porphyromonas gingivalis* thiol-proteinase.
- 1992 Presentation of an abstract, IADR meeting, Glasgow, Scotland; Identification of thiol-protease isoforms in *Porphyromonas gingivalis* 33277 culture.
- 1990 Presentation of an abstract, IADR meeting, Cincinnati, OH; Purification of a *Bacteroides gingivalis* protease which stimulates cell-mediated collagenolysis.
- 1988 Presentation of an abstract, IADR meeting, Montreal, Canada; Collagenolytic activity of mucosal keratinocytes: inductive role of *B. gingivalis*.

## COMMITTEES

- Member, Institutional Biosafety Committee, Vaxin, Inc., Birmingham, AL (2008- )
- Member, External Advisory Committee, Department of Biomedical Engineering, College of Engineering, University of Alabama at Birmingham (2006 – 2008)
- Member, NSU University School Collaboration Committee (2004 – 2005)
- Developed the HPD Statistical Consulting Center with Dr. Hardigan in the Office of Assessment, Evaluation, and Faculty Development (2004)
- Member, College of Osteopathic Medicine Research Faculty Search Committee (2004)
- CDM Research Day (2004)
- Member, NSU IRB Administrative Recruitment Committee (2004)
- Participant, College of Pharmacy Research Faculty Search Committee (2004)
- Participant, College of Optometry Research Faculty Recruitment Committee (2004)
- Thesis Committee Chair for Muriel Iwanowski, “Effect of sonic vibration on pro-inflammatory mediators *in vitro* and *in vivo*” (2003 – 2005)
- Member, President’s Faculty Research and Development Grant Committee (2003 – 2005)
- Chair, HPD Research Committee (2003- 2005)
- Member, Master of Science in Craniofacial Research Committee (2002 - 2005)
- Member, College of Dental Medicine Graduate Committee (2002 – 2005)
- NSU IRB, representative for College of Dental Medicine (2001-2004)
- Member, College of Dental Medicine Research Steering Committee (2001 – 2005)
- Member, HPD Research Construction Committee (2001- 2005)
- Thesis Review Committee for Danqung Min, “Molecular Mechanisms Regulating the Expression and Activity of MMP2 and MMP9.” Submitted in fulfillment of the requirement for the degree of Doctor of Philosophy, University of Sydney, Australia (2000)

**OTHER PROFESSIONAL ACTIVITIES AND DEVELOPMENT:**

- NIH Scientific Review Panel Member, SBIR/STTR (2008).
- Working with the Chancellor and President's office at Nova Southeastern University on a research facility acquisition (2005).
- Assisted in planning and promotion of NIH Entrepreneurial Workshop for Dr. Sharon Siegel at Nova Southeastern University (2004).
- Participant, NSU Statistical Consulting Center planning (2004).
- Invited Speaker, NSU Deans Retreat, (May, 2004).
- Wrote and submitted, then rewrote and resubmitted, a 54 page, \$854,000 NIH T32 teaching grant, through the Office of Grants and Contracts at Nova Southeastern University (2002 – 2004).
- Developed and wrote the Master of Science in Craniofacial Research Program at Nova Southeastern University and took it through SACS approval (2002-2004).
- Mentored, or consulted, faculty in our other colleges in grant preparation resulting in successful grant awards (2003-2004).
- Mentor and supported research in the department of Periodontics at Nova Southeastern University (2003 – 2005).
- Wrote and submitted a 37 page, \$119,000 NIH U24 Research Infrastructure and Planning grant through the Office of Grants and Contracts at Nova Southeastern University (2003).
- Chaired a Deans Committee at Nova Southeastern University, and wrote the scientific portion for a \$4,000,000 NIH C06 Research Facilities Grant (2003).
- Worked towards integration of HPD Research and the IRB with IRB Chair, Dr. Needleman at Nova Southeastern University (2003).
- Mentored 13 students and 3 faculty in research, 3 of which presented at international research meetings, one of which won a national research award (2002 – 2005).
- Taught Master of Science level Biomolecules, Research Design, and Immunology (2002 – 2005).
- Directed the Master of Science in Craniofacial Research Program, then the Oral Biology Tract within the Program (2002- 2005).
- Participant, graduate student orientation day (2002 – 2004).
- Wrote and won a salary and supply award for a minority post-doctoral fellow that I mentored, who then applied to dental school (2002-2004).
- Director of weekly Lunchtime Research Roundtable series at Nova Southeastern University during year (2002 – 2004).
- Head, Student Research Interest and Activity Group at Nova Southeastern University (2001 – 2004).
- Served as a faculty/student research liaison, stimulating student research interest at Nova Southeastern University (2001 – 2004).
- NIH/FDA Dental, Oral And Craniofacial Technology Forum: Clinical Trial Design and Implementation; Bethesda, MD (2001).
- ADEA Deans Conference and Workshop: Conducting and Putting Science into Practice: The Critical Role of Dental Schools; Bethesda, MD (2001).

- Scientific Reviewer, NIH/NIDCR, Special Panel Grant Review Committee, “Oral Microbiology/Immunology of Type I Diabetes”, Arlington, VA. (2001)
- Journal Review Panels (2000 - )
- NIH SBIR/STTR Conference; 2<sup>nd</sup> annual; Bethesda, MD (2000)
- NIH/NIDCR Workshop on Oral Diseases and Diabetes, Washington, DC (1999).
- Continuing Education Lecture to Alabama State Optometric Association; “Pain Management for the Optometrist” (1996).
- Scientific Reviewer for Southern Academy of Periodontology Graduate Student Research Award Committee (1995).
- Dental Student Research Preceptor, NIH Summer Research Program for Medical and Dental Students; Collagenase mRNA induction in keratinocytes by *P. gingivalis* (1994).

### **DIDACTIC TEACHING:**

#### Courses Taught:

- Research Design (MS in Craniofacial Research)
- Biomolecules (MS in Craniofacial Research)
- Advanced Immunology (MS in Craniofacial Research)
- Immunology (Graduate Dental Medicine)

#### Other Lectures Given:

- Bone Remodelling (Post-Graduate Dental Medicine)
- Histopathology of Wound Healing (Graduate Dental Medicine)
- Clinical Research (Graduate Dental Medicine)
- Bacterial Virulence (Graduate Dental Medicine)
- Mechanisms of Inflammation (Graduate Dental Medicine)
- Signal Transduction Mechanisms (Graduate Dental Medicine)
- Translational Biochemistry (Graduate Dental Medicine)

### **COMMUNITY SERVICE AND LEADERSHIP:**

2006- Director and Coach, U13 and U11 (youth) girls lacrosse program, Birmingham, AL

1990-2001 Founder, President, and Board of Directors of Birmingham Youth Lacrosse League, Inc.

1987-1989 Social Activities Director for Youth, St. Paul’s Cathedral, Birmingham, AL.

1987-1992 Head Coach, Birmingham Men’s Lacrosse Team, Birmingham, AL

1985-1986 Assistant Men’s Lacrosse Coach, Nazareth College, Rochester, NY.

1975-76 Captain, Varsity Lacrosse, Mt. Hebron Public High School, Ellicott City, MD.

### **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:**

American Academy of Periodontology

International Association of Dental Research  
Association for Research in Vision and Ophthalmology  
American Association for the Advancement of Science  
American Heart Association