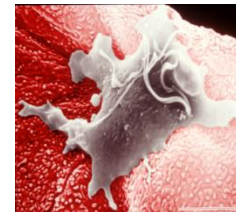


## **CURRICULUM VITAE**



**NAME:** John Fernando Alderete

**BIRTHDATE AND PLACE:** October 28, 1950; Las Vegas, New Mexico

### **EDUCATION:**

publiB.S.	1973	Mathematics Technology-	New Mexico Institute Mining & Socorro.
B.S.	1974	Biology	New Mexico Institute Mining & Technology.
Ph.D.	1978	Microbiology	The University of Kansas, Lawrence.
Postdoc	1980	Microbiology	University of North Carolina-Chapel Hill.

### **PROFESSIONAL EXPERIENCE:**

01/08-present	Professor	School of Molecular Biosciences, CVM, WSU-P
1991-2007	Professor	Department of Microbiology, University of Texas Health Science Center at San Antonio.
1985-1991	Associate Professor	Department of Microbiology, UTHSCSA
1981-1985	Assistant Professor	Department of Microbiology, UTHSCSA

### **PROFESSIONAL SOCIETIES**

**Society for the Advancement of Chicano and Native American Scientists (SACNAS), Life Member.**  
**American Society for Microbiology (ASM), 1974-2020.**

American Society of Parasitologists (ASP), 1981-1990.

**American Association for the Advancement of Science (AAAS), 1981-present.**

Society of Mexican American Engineers and Scientists (MAES), 1985-1997.

Sigma  $\chi_i$ , 1997-2003.

American Society for Cell Biology (ASCB), 2000-2010.

American Society for Matrix Biology, 2001-2006.

American Association for Dental Research, 2002-2005.

International Society for Infectious Disease, 2002-2005.

### **HONORS--AWARDS**

1. Philip Newmark Award for Biochemical Research, The University of Kansas, 1978.
2. Ford Foundation Fellow, 1974-1978.
3. Invitation to The University of Texas Board of Education Regents Meeting, Houston, 1983.
4. Research Career Development Award (RCDA) from the National Institute of Allergy and Infectious Disease, NIH, 1984.
5. National Academy of Sciences and Czechoslovakian National Academy of Sciences Scientist Exchange Program Award, Soviet and Eastern European Science Program, June 1, 1990-August 31, 1991.
6. Special **Premio Encuentro Award**, the highest honor bestowed to a Hispanic in America, in Science and Technology area; presented by Univision in live television presentation, October 1992.
7. Leadership Award and Keynote Speaker, Association of Hispanic Municipal Officials, Annual Meeting, San Antonio, April 1993.
8. Outstanding Las Vegas Award, Las Vegas, New Mexico Chamber of Commerce, May 1993.
9. Certificate of Recognition by Governor Bruce King for exemplary service to the citizens of the State of New Mexico, 1993.
10. 1994 New Mexico Institute of Mining and Technology **Alumni Association Distinguished Achievement Award**, New Mexico Institute of Mining and Technology at Socorro, May 1994.

11. Distinguished Faculty Award, Texas Association for Chicanos in Higher Education, Annual Meeting, San Antonio, TX, June 1994.
12. One Hundred Most Influential Hispanics Honor given by Hispanic Business Magazine, October 1994.
13. Nomination, the 3rd Edition of Two Thousand Notable American Men, Amer. Biographical Institute, NC.
14. Who's Who in Technology, Detroit, MI and Who's Who in Science and Engineering for 1996-1997, New Providence, NJ.
15. Science Award, Annual Scholarship Banquet of the Society of the Mexican American Engineers and Scientists, October 1994.
16. Journal Highlights of recently published article by American Society for Microbiology, ASM News, November, 1995.
17. Hispanic Heritage Week *El Tone* Faculty Award, UTHSCSA Hispanic Organizing Committee, September 1996.
18. Hispanic Engineer National Achievement Award in Affirmative Action Category, HENAAC Annual Conference, Houston, TX, October 1996.
19. Full Member, ID 999990088, Sigma  $\chi$ i, The Scientific Research Society, April 1999.
20. Hispanic Engineer National Achievement Awards Conference Distinguished Nominee for HENAAC 2000 Award for Outstanding Contributions to Science, HENAAC Annual Conference, El Paso, TX, October 2000.
21. Fellow, Elected to **American Academy of Microbiology**, American Society for Microbiology, October 2000.
22. Quote in The Scientist, article "NIH Sets Up Minority Health Center," p. 6, February 5, 2001.
23. Honored as one of the best and brightest Hispanic scientists in the nation, an honor exhibited at the National Atomic Museum in New Mexico from mid-September through mid-October, 2001.
24. Honored in the *HISPANIC ENGINEER & INFORMATION TECHNOLOGY MAGAZINE* as a "2002 Hispanic Power Hitter," For "overcoming stereotypes, shattering glass ceilings, and bridging the Digital Divide." Spring 2002 (featured May 2003).
25. Honored with current and past presidents for the Public Service Award given to SACNAS by the National Science Board. Black Tie affair at the US State Department on May 7, 2002.
26. Honored in *El Informador de Champaign-Urbana* newspaper, Featured article entitled, "Estudiando los microbios," April 2002.
27. **Distinguished Scientist Award**, Prestigious honor conferred by The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), Annual conference October 8-12, 2003.
28. 2004 **William A. Hinton Research Training Award**, honor by Officers of the American Society for Microbiology (ASM), the American Academy of Microbiology, and the Committee on Awards, Annual Meeting of the ASM, New Orleans, LA, May 23-27.
29. Honored in *The Faces of Science: Hispanic Americans in the Sciences*, Minority Health Professions Foundation, Atlanta, GA, Summer 2004.
30. Member, La Academia Mexicana de Ciencias (Mexican National Academy of Sciences), Notice on October 24, 2005.
31. Honored in publication, "Underrepresented Minority Faculty: Impact on Biomedical Research," ed. Drs. Lydia Aguilar-Bryan and Gayle Slaughter, IMSD Program NIH GM56929, Baylor College of Medicine, Houston, TX, 2004. (<http://www.bcm.tmc.edu/diversityprograms>)
32. 2006 Induction and **Member, National Academy of Sciences of Mexico**.
33. 2007 **Outstanding Latino Faculty in Higher Education**: Research/Teaching in Higher Education for Research Institutions given by the American Association of Hispanics in Higher Education, Inc. (notified 15 November, 2006).
34. Distinguished Dr. Martin Luther King, Jr. Community Service Award Nominee, San Antonio, TX, January 2007.
35. **American Association for the Advancement of Science (AAAS) Fellow** for "fundamental studies advancing the knowledge of virulence factors and mechanisms of pathogenesis for the number one sexually transmitted infection caused by *Trichomonas vaginalis*." 2007.
36. 2008, Workgroup, American Association of Hispanics in Higher Education "National Strategy for Increasing the Number of Hispanics in SEM Professoriate.
37. Who's Who in Sciences Academia, 2008. (<http://sciences.academickeys.com>)

38. 2010, Highlighted by Minority Affairs Committee, The American Society for Biochemistry and Molecular Biology, <http://www.asbmb.org/Page.aspx?id=7152>.
39. **2010 Excellence in Teaching Award**, School of Molecular Biosciences, WSU.

### **HONORS--INVITED TALKS and REVIEWS**

1. U.S.-Japan International Joint Meetings on Cholera, Atlanta, Georgia, 1977.
2. Nobel Symposia on Cholera and Related Diarrheas, Stockholm, Sweden, 1978.
3. Session leader at General Meeting of the American Society for Microbiology, Atlanta, Georgia, 1982.
4. The International Symposium of Trichomonads and Trichomoniasis, Prague, Czechoslovakia, July 1985.
5. Ad hoc reviewer, British Columbia Health Care Research Foundation, British Columbia, 1985.
6. Guest Research Scientist, Comenius University, Institute of Parasitology, Bratislava, Czechoslovakia, June 1986.
7. NIAID/NIH sponsored symposium on microbial surface, Oakland, CA, October 1986.
8. Student Science Careers Program Speaker, Meharry Medical College, Dept. of Biology, Sponsored by Speaker, Minority Biomedical Science Program, American Society for Microbiology, February 1987.
9. Guest Research Scientist, Comenius University, Dept. of Immunology, Bratislava, and Faculty University, Dept. of Parasitology, Prague, Czechoslovakia, May 1987.
10. Student Science Careers Program Speaker, Meharry Medical College, Dept. of Biochemistry, MBRS Program, American Society for Microbiology, April 1988.
11. Keynote speaker, American Society of Rickettsiology and Rickettsial Diseases annual meeting, Santa Fe, NM, April 1988.
12. Chairman, Session on Trichomoniasis, International Society for Sexually Transmitted Disease Research (ISSTD), Copenhagen, Denmark, September 1989.
13. Mentor, Board of Education and Training, American Society for Microbiology, 1990.
14. Symposium for MBRS/MARC Programs National Meeting on "Molecular Biology of Parasitic Diseases," Nashville, TN, October 1990.
15. ASM Faculty-Mentor Program Seminar, Paine College, Dept. of Biology, Augusta, GA, American Society for Microbiology, November 1990.
16. Faculty Development Program, San Antonio College, Alamo Community College District, San Antonio, 1991.
17. Member, U.S. Delegation of Parasitologists Chosen to visit Mainland China, Citizen's Ambassador Program, October 1991.
18. Keynote Speaker, Brazilian Society of Protozoology Annual Meeting, Caxambu-Rio de Janeiro, Brazil, November 1991. (Did not attend; conflict in schedule).
19. Organizer and co-Chairman, Mini-Symposium on Molecular Pathogenesis, Held in the Dept. of Microbiology, UTHSC-SA, November 1991.
20. Session Chairman and Keynote Speaker, Society for the Advancement of Chicanos and Native American Scientists Annual Meeting, San Antonio, January 1992.
21. Convener and Session Chairman, Symposium entitled, "Host-parasite Interactions: Membranes, Signaling and Pathogenesis," Texas Branch American Society for Microbiology Meeting, San Antonio, October 1992.
22. Keynote Speaker, Hispanic Student's Conference on "Education: The Bridge Between Culture and Success," Fort Lewis College, Durango, CO, October 1992.
23. Joint US-Mexico Academy of Science Symposium, "Molecular Biology of Parasites," Mexico City, October 1992.
24. Keynote Speaker, UT Medical Branch Undergraduate Research Symposium, Graduate School of Biomedical Sciences, UTMB-Galveston, February 1993.
25. Keynote Speaker, Association of Hispanic Municipal Officials (AHMO), Annual Convention, San Antonio, TX, March 1993.
26. Vice-Chairperson, Session on Increased Representation in the Science and Health Professions, Surgeon General's Regional Meetings on Hispanic/Latino Health, Public Health Region VI and VIII Meeting, San Antonio, March 1993.
27. 20th Anniversary of MBRS Program, U.T.-Pan American, Edinburg, TX, April 1993.

28. Keynote Speaker, 11th Annual LULAC Women Leadership Conference, Texas Lutheran College, Seguin, TX, May 1993.
29. Keynote Speaker, Symposium on Environmental Biology and Profession Opportunities for Students, Rural Economic Development, Texas General Land Office, Austin, TX, May 1993.
30. Reviewer of grants, U.S. Dept. of Agriculture, Office of Grants Reviewer, Animal Disease-3 Section, May 1993.
31. Keynote Speaker, Mickey Leland Student Leadership Conference, Texas Water Commission, Austin, TX, August 1993.
32. Keynote Speaker, ADELANTE-The Texas General Land Office Hispanic Networking Employee Group, Austin, TX, September 1993.
33. Keynote Speaker, XVII World Congress of Anatomical and Clinical Pathology, Symposium on Sexually Transmitted Diseases, Acapulco, Mexico, October 1993.
34. Keynote Speaker, Eagle Pass Chamber of Commerce, Eagle Pass, TX, January 1994.
35. Keynote Speaker, Society of Hispanic Professional Engineers, 1994 National Career Conference (NCC '94), Austin, TX, February 1994.
36. American Association for Cancer Research 85th Annual Meeting, Symposium entitled, "Survival and Success in Cancer Research Toward The Year 2000," San Francisco, CA, April 1994.
37. Keynote Speaker, Image of Texas-National Hispanic Organization, State Conference, Corpus Christi, TX, April 1994.
38. Keynote Speaker, Texas Association for Chicanos in Higher Education Annual Meeting, San Antonio, TX, June 1994.
39. Participant, Session on Hispanics and Tenure Issues, TACHE Annual Meeting, San Antonio, TX, June 1994.
40. Keynote Speaker, Society for Hispanic Professional Engineers and Society for Mexican American Engineers and Scientists, Student Leadership Conference National Meeting, Los Angeles, August 1994.
41. Keynote Speaker, Dallas Second Annual Hispanic Summit on "Hispanics and Higher Education Issues," October 1994.
42. Hispanic Association of Colleges and Universities 8th Annual Meeting, Anaheim, CA, October 1994. (Declined due to schedule conflict).
43. Keynote Speaker, Center for Health Policy Development, Inc. and Centro de Salud Familiar La Fe, "First Annual Southwest Hispanic Health Policy Forum: A Focus on HIV/STD," El Paso, TX, October 1994.
44. Keynote Address, First Annual Society of Mexican American Engineers and Scientists Symposium on "Science: A Gateway to the Future," Texas A&M University, College Station, TX, February, 1995.
45. Keynote Address, Latino Midwest Mexican American Association, U. Illinois at Chicago, IL, March 1995. (Declined due to schedule conflict).
46. Keynote Speaker, South Texas Su Clinica Familiar Health Professionals Services Program, Harlingen, TX, May 12, 1995.
47. Keynote Speaker, 8th Annual Latino Issues Conference, Wayne State University, Detroit, MI, Nov. 1995.
48. Keynote Speaker, Southwest Association of Student Assistant Programs, Eight State Regional Meeting, El Paso, November 1995.
49. Keynote Speaker, California Institute of Technology, Seminar Latina/Hispanic Education Issues Conference, Pasedena, CA, May 1996.
50. Society for Mexican American Engineers and Scientists, Southwest Texas State University, San Marcos, TX, September 1996.
51. Co-chairman, Task Force on Higher Education and Training, Intercultural Cancer Council Meeting, Atlanta, GA, September 1996.
52. American Cancer Society Regional Meeting, Symposium on Minorities in Higher Education, Houston, TX, October 1996.
53. Symposium Organizer and Speaker on "Hispanics and Future Workforce Issues," Hispanic Engineers National Achievement Awards Conference, Houston, TX. October.
54. Panelist/Presenter, Forum on "Recent Court Decisions: Minority Programs Under Fire." STEP Program, NIGMS/NIH, Natcher Building Conference Center, February 1997.

55. *Featured Contributor* to article, *The Scientist*, February issue, 1997.
56. *Keynote Speaker*, Baylor College of Medicine Medical Student Forum, March 1997.
57. *Keynote Speaker*, Iowa State University Society for Hispanic Professional Engineers (SHPE) High School Conference for Hispanic Students, Iowa State University, March 1997.
58. Panel Member, American Association for Cancer Research Annual Meeting, Forum on Scientist Mentoring, April 1997.
59. Southwestern University First Annual Conference on Latino Affairs, "Constructing Realities," Georgetown, TX, April 18, 1997.
60. Intercultural Cancer Council Biennial Symposium, Congressional Speaker, Washington, D.C., April 24, 1997.
61. Intercultural Cancer Council Biennial Symposium, Hispanic American Health and Education Issues, Washington, D.C., April 27, 1997.
62. Speaker, Association of Nurses in AIDS Care, *Trichomonas vaginalis* and HIV, School of Nursing, UTHSCSA, San Antonio, August 11, 1997.
63. U. Puerto Rico at Cayey, MBRS Research Symposium, Cayey, PR, August 30, 1997.
64. *Keynote Speaker*, Hispanic Heritage Program, "Hispanics and Higher Education Issues," U.S. Department of the Army, Fort Detrick, MD, September 17, 1997.
65. *Keynote Speaker*, St. Mary's University Student Research Symposium, Howard Hughes Medical Institute Undergraduate Biological Sciences Educational Program, "Velcro, WD40, and Minorities in Science." September 20, 1997.
66. Participant, American Chemical Society Blue Ribbon Panel on Higher Education, Carmel, CA, September 29-October 1.
67. Session Co-Chair and Presenter, Session entitled, "*Trichomonas vaginalis*--An Important STD," Int'l Congress of STDs, Seville, Spain, October.
68. National Science Board Convocation on "Federal Support for Graduate and Postdoctoral Education," Houston, TX., October 9.
69. Panelist, workshop on "Advancing the Community-Driven Research Agenda," National Institute of Environmental Health Sciences (NIEHS/NIH), October 27-29, 1997.
70. FDA-Center for Food Safety and Applied Nutrition American Indian Program, November 25, 1997.
71. Panelist, One-day Conference, "The Urban University: Pathway to Careers in Biomedical Science for Minority Scientists and Engineers," The Minority Access/Graduate Networking (MAGNET) Program at the City University of New York (CUNY), February 20, 1998.
72. , Texas A&M University, First Annual Student Research Week, March 28, 1998.
73. Education Symposium Invitation, Honorable Congressman Ciro Rodriguez, "Reauthorization of the Higher Education Act (HEA): Empowering Our Community Through Opportunities in Education," St. Mary's University, San Antonio, February 19, 1998.
74. Panelist, NIGMS/NIH Meeting on "Race Neutral Alternatives to Affirmative Action," NIH Campus, Bethesda, MD, March 25, 1998.
75. Panelist, Planning Conference for Minority Women's Center of Excellence, UTHSCSA, March 28.
76. Reviewer and Panelist, Strengthening Institutions Program (SIP-Title III, Part A), U.S. Department of Education, Washington, DC, April 19-24, 1998.
77. *Keynote Speaker*, Phi Theta Kappa International Honor Society Annual Meeting, "How Have Science and Technology Changed Our Understanding and Expectations About the Pursuit of Happiness," St. Mary's University, San Antonio, TX, July 9, 1998.
78. Moderator, Panel on Mentoring, Sponsored by NIH, Undergraduate Scholars Program, Intramural Program/NIH, July 13, 1998.
79. Howard Hughes Program for Incoming Freshman on "Science Opportunities and Higher Education," Saint Mary's University, July 20, 1998.
80. Panelist, "Chemistry, the Economy, and a Diverse Workforce," American Chemical Society, Boston, MA, August 24, 1998.
81. National Institute of Aging & National Cancer Institute/NIH Symposium on "Aging and Cancer Issues Confronting the Hispanic Community," September 15.
82. Panel Member, NACME (National Action Council for Minorities in Engineering) Forum 98: "Race, Ethnicity and the Scientific Enterprise: A Conversation That Must be Held", October 15, 1998.
83. 8<sup>th</sup> Annual National Symposium on Strategies for Recruiting and Retaining Students of Color," Washington, DC, November 8-11, 1998.



84. Panel Member, Association for Ethnic Diversity in the Neurosciences, topic "*Career Advancement: Problems and Solutions from a Minority Perspective*," November 10, 1998.
85. Interagency Working Group, National Science and Technology Council, Office of Science and Technology Policy on "Recommendations to Address Underrepresentation of Minorities, Women and Persons with Disabilities in the Workforce," The White House, March 26, 1999.
86. Keynote Speaker, "2<sup>nd</sup> Annual Symposium on the Recruitment and Retention of Students of Color", The University of Kansas, April 16-17, 1999.
87. South Texas AIDS Center for Children and Their Families, "Trichomonosis and HIV/AIDS," San Antonio, TX, May 19, 1999.
88. Keynote Address, NIH Extramural Associates (EA) Program Sponsored Research Regional Workshop, "The Benefits of Sponsored Research to Institutions, Private Investigators, and Students," Houston, TX, May 27, 1999.
89. American Society for Microbiology (ASM) Underrepresented Members Committee Symposium on "Successful Activities of Other Professional Organizations That ASM Could Model," Annual Meeting of ASM, Chicago, IL, May 31, 1999.
90. Keynote Speaker, Texas Nurse Practitioners Eleventh Annual Conference, on "Trichomonas and HIV", San Antonio Omni Hotel, August 27, 1999.
91. Moderator, Public Policy Forum of the Joint Center for Political and Economic Studies in association with The Woodrow Wilson International Center for Scholars and the President's Information Technology Advisory Committee at The White House, "Resolving the Digital Divide: Information, Access, and Opportunity," October 19, 1999.
92. The Annual Meeting on Chagas Disease and The Annual Meeting of the Brazilian Society of Protozoology, on "Trichomonosis Pathogenesis," Rio de Janeiro, Brazil, November 9-10, 1999.
93. "Hispanics and Higher Education: Why Their Absence?" and "Hispanic K12 Demographics and the Digital Divide", Pre-Service Teacher Education Conference, Elementary and Middle School Teachers and Undergraduate Students, Sponsored by National Langley Laboratory, NSF, and Norfolk State University, November 19, 1999.
94. "Hispanic K12 Demographics and the Digital Divide", Pre-Service Teacher Education Conference, Elementary and Middle School Teachers and Undergraduate Students, Sponsored by National Langley Laboratory, NSF, and Norfolk State University, November 19, 1999.
95. Participant, National Cancer Legislation Advisory Committee, Roundtable Discussion Session on Minority and Underserved Populations, Chaired by Drs. Alfred Haynes and Armin Weinberg, Los Angeles, CA, September 15, 2000.
96. Workshop Moderator, Howard Hughes Medical Institute 2000 Program Directors Meeting, Session on Raising Achievement for Underrepresented Minority Students, October 10-12, 2000.
97. "K-12 Education and Inquiry-based Science and Minority Students," Pre-Service Teacher Education Conference, Elementary and Middle School Teachers and Undergraduate Students, Sponsored by National Langley Laboratory-NASA and NSF, Norfolk State University, October 28, 2000. (did not present due to schedule conflict).
98. American Society for Microbiology, on Annual Biomedical Research Conference for Minority Students, November 2000.
99. Reviewer, Federal Agency Postdoctoral Fellow Awards, National Research Council, March 1-2, 2001.
100. Reviewer, Ford Foundation Dissertation and Postdoctoral Fellowship Awards, National Research Council, March 15-16, 2001.
101. One of 5,000 Subject Specialists with accepted references in Fields of Knowledge in the Infography, <http://www.Infography.com>, March 20, 2001.
102. Grand Rapids Visiting Professor & Grand Rounds, Internal Medicine Residency Program, Michigan State University, July 19, 2001.
103. Presentation on Research and Diversity Issues to Residents, Spectrum Health, Grand Rapids, MI, July 20, 2001.
104. Dental School Faculty Development Day Workshop entitled, "Engaging Clinicians in a Team Approach to Research: From Bench to Chairside," UTHSCSA, October 5, 2001.
105. Compact for Faculty Diversity, Atlanta, GA, October 25-28, 2001.
106. 7th Annual Native WEB Nurse Conference, Rochester, NY, October 28, 2001.

107. Annual Biomedical Research Conference for Minority Students, American Society for Microbiology, Orlando, FL, November 1, 2001.
108. National Coalition on Ethnic Minority Nurse Association, Sponsored by National Institute of Nursing Research, NIGMS, and NCMHD, Bethesda, MD, March 18, 2002.
109. Keynote Speaker, New Mexico State University, on "Faculty Mentoring Workshop," April 5, 2002.
110. University of Washington McNair Scholars Program, May 9, 2002.
111. Workshop on Mitochondrial Protozoan Genome Sequencing Projects, "Emerging Themes and Molecular Basis for *Trichomonas vaginalis* Virulence and Pathogenesis," the Wellcome Trust, NIAID/NIH, and the Wellcome Fund (USA), Hinxton, Cambridgeshire, UK. May 21, 2002.
112. Keynote Speaker, Association of American Medical Colleges Minority Medical Education Program, Sponsored by the Robert Wood Johnson Foundation, Baylor College of Medicine, June 14, 2002.
113. Keynote Speaker, "Summit on Hispanic/Latino Issues on Science," Society for the Advancement of Chicanos and Native Americans in Science Annual Conference, September 28, 2002.
114. Keynote Speaker, 17th Annual Undergraduate Research Symposium, University of Texas Medical Branch at Galveston, February 14, 2003.
115. Participant, Northwest/Alaska Center to Reduce Oral Health Disparity Workshop entitled, "Opportunities in Health Sciences for Underrepresented Students," at Heritage College, Yakima Valley, WA, May 12, 2003.
116. Keynote Speaker, 2003 Anthony J. Andreoli-Geraldine Woods Lecture, CSU-LA Minority Opportunities in Research (MORES) Programs, June 6.
117. Keynote Speaker, Graduate Education for Hispanics in Science and Engineering Conference, U. Illinois, September 12, Urbana-Champaign.
118. The Genome and Biology of the Trichomonads, Part of the 52<sup>nd</sup> American Society of Tropical Medicine and Hygiene Annual Conference, Philadelphia, PA, December 2-3, 2003.
119. St. Mary's University "Liberation through Education" High School Leadership Conference, San Antonio, TX, March 27, 2004.
120. Participant, American Academy of Microbiology Colloquium entitled, "Systems Microbiology: Beyond Microbial Genomes," Portland, OR, June 4-6, 2004.
121. Discussion on Diversity, Pacific Northwest National Laboratories, September 2, 2004.
122. Session Speaker and Closing Remarks, American Society for Microbiology Graduate Student and Postdoctoral Fellow Summer Institute in Preparation for Careers in Microbiology, Storrs, CT, August 2-3, 2005.
123. Keynote Speaker, Minority Health Profession Foundation Annual Conference, Houston, TX, April 12-14, 2006.
124. ASM Kadner Summer Institute for ASM Graduate Students and Postdoctoral Fellows in Preparation for Careers in Microbiology, Storrs, CT, July 30-31, 2006.
125. Keynote Speaker, 13<sup>th</sup> Annual Institute on Teaching and Mentoring, Compact for Faculty Diversity Annual Conference, Miami, FL, October 27, 2006.
126. NSF Postdoctoral Session on Success Beyond the Postdoctoral Training Period, 13<sup>th</sup> Annual Institute on Teaching and Mentoring, Compact for Faculty Diversity Annual Conference, Miami, FL, October 27, 2006.
127. ASM American Biomedical Research Conference for Minority Students, Session, "Pathway to the Professoriate: Starting Your Own Research Laboratory," November 10, 2006.
128. Keynote Speaker, Grambling University NIH-MARC Symposium, February 11, 2007.
129. Distinguished Lecture, "Profile on a Competitive Latino/a Engineering Student," Society of Hispanic Professional Engineers, Inc. (SHPE) and the Advancing Hispanic Excellence in Technology, Engineering, Math and Science (AHETEMS) Foundation, October 31-November 4, 2007.
130. Plenary Speaker, Faculty Resource Network National Symposium on "Advancing Women and the Underrepresented in the Academy," Johnson C. Smith University, Charlotte, North Carolina, November 16-17, 2007.
131. Forum on Health Disparities, Universidad Del Este, Escuela de Ciencias y Tecnologia, Proyecto MBRS/RISE, Puerto Rico, February 28-29, 2008. (did not attend due to conflict).
132. Cancer Prevention & Research Center, Health Disparities, March 30, 2008.
133. Future Scientists and Engineers, High School students of Washington State, Integrated Programs and Outreach of WSU, May 18, 2008.

134. Keynote Speaker, High School Students of Walla Walla, WSU Integrated Programs and Outreach, June 26, 2008.
135. "Mentoring for Academic Success," Mentoring Programs, Office for Multicultural Student Services, August 18, 2008.
136. Keynote Speaker, Scientific Empowerment Movement, Building Diversity in Science, University of California-Los Angeles (UCLA), September 27, 2008.
137. Keynote Speaker, "Issues Affecting Minorities in Science," Scientific Excellence Through Diversity Series, Graduate Student Diversity Group, UCLA, Program Sponsored by Chancellor Gene Block, PhD, October 30, 2008.
138. Keynote Speaker, American Chemical Society Workshop on Increasing Hispanic Undergraduate Participation in Chemistry, 2008 Washington, DC, November 14-16, 2008.
139. Children of Aztlan Sharing Higher Education (CASHE) Conference, November 14-16, 2008; Declined due to conflict.
140. Keynote Speaker, Dean's Summit: Bringing Hispanic Leaders from Academia to Develop Action Plan for Partnering with HSIs to Increase Hispanics in STEM, Society for Hispanic Professional Engineers (SHPE), November 13-14, 2008; Declined due to conflict.
141. "The Value of Being Engaged in a Research Laboratory," WSU SACNAS Chapter, February 23, 2009.
142. Keynote Speaker, Semana de la Raza Activities, Chicano/Latino Faculty/Staff Association, College for Undergraduate Education, Washington State University, March 2, 2009.
143. "Development and Advancement of Minority Scientists in Academia," Annual Conference of the American Society for Biochemistry and Molecular Biology, Minority Affairs Committee, New Orleans, LA, April 2009.
144. Sigma Xi Distinguished Lecturer, 2008-2010.
145. Keynote Graduation Speaker, Multicultural Graduation Ceremony, Undergraduate Students of Washington State University, Multicultural Student Services, May 8, 2009.
146. School of Molecular Biosciences Postdoctoral Research Association Grant Writing Workshop Series, May 21, 2009.
147. Hispanic Youth Exploring Engineering and Sciences, High Schools of Eastern Washington, June 26, 2009.
148. Programa de Orientacion Alive Del Verano, WSU Student Orientation for Parents, June 26, 2009.
149. Palouse Technology Fair, Pullman, WA, July 15, 2009.
150. McNair Achievement Program, Graduate School, WSU-Pullman, September 30, 2009.
151. Distinguished Speaker, Advancing Hispanic Excellence in Technology, Engineering, Math & Science (**AHETEMS**) Foundation and Society of Hispanic Professional Engineers, Inc. (**SHPE**) Conference, Washington, DC, October 28-November 1, 2009.
152. Upward Bound Summer Camp, "Sexuality and Sexual Health of Adolescent Girls," WSU, June 16, 2010.
153. Programa de Orientacion ALIVE Bilingue: La Bienvenida, June 26-27, 2010.
154. Host and speaker, 16<sup>th</sup> Annual Na-ha-shnee Health Science Institute for Native American High School Students, Health Careers' Opportunities, June 29 and 30, 2011.
155. Invited Speaker, "*Trichomonas vaginalis*, Reproductive Health, and a Minority Scientist's Experiences," Minority Affairs Committee, Society for the Study of Reproduction, Portland, OR, August 1, 2011.
156. Honors College Freshmen Science Majors, Three Sessions on "STEM Opportunities and What Makes You Competitive for Graduate School," WSU, October, 24 and 26, 2011.
157. Invited Faculty Panel, "Tools, Techniques, and Experience: Advice for Faculty on Mentoring Doctoral Students," SACNAS Annual Conference, October 27-30, 2011.
158. Ernest E. Just Graduate Student and Postdoctoral Fellow Biomedical Society, U. Pennsylvania School of Medicine, April 4, 2012.
159. Invited Speaker, Retreat, School of Molecular Biosciences, College of Veterinary Medicine, WSU, Coeur d'Alene, Idaho, August 16, 2012.
160. Invited Keynote Speaker, National Hispanic Health Disparities Research Training Program, California State University-San Bernardino, April 20, 2013.
161. Invited Keynote Speaker, Michigan Alliance for Graduate Education and the Professoriate (AGEP), Alliance 2013 Fall Conference, E. Lansing, MI, September 6, 2013.



162. Invited Speaker, Royal Academy of Veterinary Science of Spain, June 10, 2013.
163. Invited Keynote Speaker, Endocrinology and Reproductive Physiology Program Annual Research Symposium, University of Wisconsin-Madison, June 19, 2014.

**REVIEWS/SERVICE/TESTIMONY FOR NATIONAL and INTERNATIONAL ORGANIZATIONS AND AGENCIES, SCIENTIFIC SOCIETIES, FOUNDATIONS, AND SCIENCE-RELATED PUBLICATIONS**

1. NSF Ad hoc Review of Comprehensive Centers for Minorities, Washington, D.C., April 1992.
2. NSF Ad hoc Review of Minority Research Centers of Excellence (MRCE) Program, May 1992.
3. Testimony Presenter, NIH-Office of Research on Women's Health Task Force on the Recruitment and Retention of Women in Clinical Studies, NIH Campus, March 1993.
4. Participant, Focus Group on Manpower and Training Needs in Microbiology, American Society for Microbiology, Washington, DC, January 1994.
5. Ford Foundation Dissertation and Postdoctoral Fellowship Programs Evaluation of Applications, National Research Council, March 1994.
6. Participant, Public Policy Planning Meeting, 5th Biennial Symposium on "Minorities, the Medically Underserved and Cancer," Intercultural Cancer Council, Dallas, TX, January 1995.
7. Ad hoc Reviewer, USDA National Research Initiative Grants program (NRICGP), Washington, DC, March 1995.
8. Chair, Panel Review for ASM/NCID Postdoctoral Fellow Applications, American Society for Microbiology, Washington, DC, February 1996.
9. Ad hoc Advisory Committee, Review of Projects and Initiatives, Office of Research on Minority Health, NIH, April 3, 1996.
10. Outside Reviewer, MBRS-funded laboratory, Department of Biological Sciences, UT-El Paso, April 26, 1996.
11. Reviewer, Medical Research Council of Canada, Ottawa, April 1996.
12. Reviewer, USDA National Research Initiative Competitive Grants Program (NRICGP), USDA, Washington, D.C., April 1996
13. External Scientific Advisory Committee of MBRS Program, UT-El Paso, April 1996.
14. External Reviewer, World Health Organization, UNAIDS Sexually Transmitted Disease Initiative (SDI) Grants, July 1996.
15. Reviewer, Review Committee Meeting, Basic, Clinical and Behavioral Abstracts, 6th Biennial Symposium on Minorities, the Medically Underserved and Cancer, Intercultural Cancer Council, Houston, TX, January 1997.
16. Reviewer and Panelist, Department of Education, Graduate Assistance in Areas of National Need Program, Washington, D.C., February 1997.
17. Panel Member, American Chemical Society, Blue Ribbon Advisory Panel on Minority Affairs, Jacksonville, FL, March 1997.
18. External Reviewer, USDA, National Research Initiative Competitive Grants Program, Animal Genetics section, April 1997.
19. External Reviewer, USDA, National Research Initiative Competitive Grants Program, Sustaining Animal Health and Well-Being section, May 1997.
20. Panelist, Consensus Development Panel, Office of Congressionally Directed Medical Research Programs of the U.S. Army Medical Research and Material Command, Vienna, VA, October 1997.
21. Panelist, Consensus Development Panel II, Office of Congressionally Directed Medical Research Programs of the U.S. Army Medical Research and Material Command, Alexandria, VA, December 1997.
40. Speaker and Panelist, The White House Office on Science and Technology Policy (OSTP) and AAAS co-sponsorship of The President's Discussion of Race Relations, Panel entitled, "Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century," Pennsylvania Convention Center, Philadelphia, February 13, 1998.
41. Reviewer, US Department of Agriculture, National Research Initiative Competitive Grants Program, Animal Health and Well-Being FY98 Section, April 24, 1998.

42. Organizer and Moderator, K-12 National Program Development Meeting, The Society for the Advancement of Chicanos and Native Americans in Science, Washington, DC, May 22-24, 1998.
43. Organizer and Moderator, Academic Advisory-Government Planning Meeting, The Society for the Advancement of Chicanos and Native Americans in Science, Washington, DC, July, 1998.
44. Speaker, Chairman's Meeting of the American Physiology Society and Council of the American Physiology Society, "Underrepresented Minorities in Science," December 5, 1998.
45. Reviewer, Research Centers for Minority Institutions (RCMI), National Center for Research Resources, NIH, February 8, 1999.
46. Guest, The White House discussion meeting on "One Nation" on race and health disparities, March 17, 1999.
48. Reviewer, USDA National Research Initiative Competitive Grants Program (NRICGP), USDA, Animal Health and Well-Being Panel, Washington, D.C., April 1999.
49. Organizer and Moderator, Hispanic Association of Colleges and Universities (HACU), Science Advisory Panel meeting, on "The Role of HACU in Science Higher Education," San Antonio, TX, May 7-8, 1999.
50. Reviewer, Specialized Neuroscience Research Program, Cajal Neuroscience Research Center, UTSA, October 23, 1999.
51. Comment, "Search Committees: The Long and Winding Road of Academic Hiring," The Scientist, November 8, 1999 issue, p. 24.
52. Reviewer, National Science Foundation, Research Experiences for Undergraduates Program, November 23, 1999.
53. Intercultural Cancer Council Biennial Meeting Student Abstract Review Committee, December 15, 1999.
54. Reviewer, Competitive Research Application for the Center for Study of Gene Structure and Function, Research Centers in Minority Institutions Program, Hunter College-CUNY, January 6, 2000.
55. Member and Chair, External Advisory Committee, Center for Study of Gene Structure and Function, Research Centers in Minority Institutions Program, Hunter College-CUNY, 1992-2011.
56. Reviewer, American Society for Microbiology National Center for Infectious Diseases Postdoctoral Fellows Program, February 5, 2001.
57. Panelist, National Research Council Associateship Programs, March 1, 2001.
58. Panelist, Ford Foundation Biological Sciences Postdoctoral Fellows, March 15, 2001.
59. Reviewer, USDA, Animal Health and Well-Being Program, March 2001.
60. Reviewer USDA, Animal Health and Well-Being Program, April 2001.
61. Co-Organizer (with Fernando Costa e Silva-Filho, Brazil), Satellite Meeting on Trichomonas, The XXVIII Annual Meeting on the Basic Research in Chagas' Disease and XVII Annual Meeting of Brazilian Society of Protozoology, November, 2001.
62. Ad hoc Reviewer, USDA National Research Initiative Competitive Grants Program (NRICGP), USDA, Animal Health and Well-Being Panel, Washington, D.C., March 2002
63. Ad hoc Reviewer, USDA National Research Initiative Competitive Grants Program (NRICGP), USDA, Animal Health and Well-Being Panel, Washington, D.C., April 2002.
64. Participant, Second Annual Specialized Neuroscience Research Program (SNRP) Conference, San Antonio, TX, May 16-17, 2002.
65. Co-Organizer (with Meg Phillips, Southwestern Medical Center and James Chambers, UTSA), 2nd International Polyamine Protozoan Congress, San Antonio, TX, May 18-22, 2002.
66. Co-Organizer with Dr. Cecilio Barrera of U. Illinois at Urbana-Champaign of the "State of the Nation Summit on Hispanic/Latino Issues on the Science, Math, Engineering & Technology Workforce at the annual SACNAS conference on September 25 and 28, 2002, respectively.
67. Organizer, Grant Writing Workshop for the Annual Meeting of the Biomedical Research Infrastructure Network of New Mexico, March 2, 2003.
68. Reviewer, EXPORT Program Grant to Nat'l Ctr. Minority Hlth. And Hlth. Disparities, U. Illinois-Chicago, April 2003.

69. Reviewer, *Redes en Accion* Pilot Grant, U. Illinois-Chicago, May 2003.
70. Reviewer, The Wellcome Trust Travelling Research Fellowships Application, May 20, 2003.
71. Reviewer, US Department of Agriculture, Small Business Innovation Research, February 2004.
72. Participant, Intercultural Cancer Council Biennial Conference, Session on Networking, March 24-28, 2004.
73. Chaired meeting of Hispanic Science Advisory Council of HACU, San Antonio, TX, February 19, 2005.
74. Reviewer, The Wellcome Trust Project Grant, April 27, 2005.
75. Blue Ribbon Panel Participant, National Institute of Dental and Craniofacial Research, January 2006.
76. Opening Keynote, ASM Kadner Institute for Graduate Students and Postdoctoral Fellows, Storrs, CT, July 30, 2006.
77. Sigma Xi Distinguished Lecturer, July 2008-June 2010.
78. Speaker, Cancer Prevention Research Center Retreat, Cor d'Alene, ID, March 29-30, 2008.
79. Reviewer, Austrian Academy of Sciences Postdoctoral Awards, July 2009.
80. Member, Hispanic Association for Colleges and Universities (HACU) National Hispanic Health Disparities Research Training Program for Undergraduate Minority Students, 2011-present.
81. Invited Technical Consultant, WHO Global Action Plan and Road Map for STI Vaccine Development, WHO Headquarters, Geneva, Switzerland, April 24-26, 2013.
82. Member, Hispanic Association for Colleges and Universities (HACU) STEM Task Force, 2014-2016.

## **MEMBER**

### **Editorial boards-journals**

1. Editorial Board, *Experimental Parasitology*, Elsevier Publishing, October 2009-2013.
2. Associate Editor, *BMC Research Notes*, January 2008 – 2015.
3. Associate Editor, *BMC Microbiology*, August 2008 – 2015.
4. Editorial Board Member, *Archives in Medical Research*, 1993-present.
5. Editorial Board Core Reviewer, *Microbiology*, BioMed Central, January 2001-2015.
6. Peer Reviewer, *Clinical Infectious Diseases*, April 2001-2015.
7. Editorial Board, *Infection and Immunity*, American Society for Microbiology, January 1989-1991 and January 2003-2008.
8. Editorial Board Member, *Environmental Health Perspectives Journal*, 1997-2003.

### **NIH/Other funding agencies activities**

1. Ad hoc reviewer, NIH/NIAID, Tropical Medicine and Parasitology Study Section, 1984.
2. Ad hoc, NIH/NIAID Board of Scientific Counselors, Review of Lab. of Parasitic Diseases, February 1988.
3. MBRS, NIH, Site review committee, Mount St. Mary's, Los Angeles, February 1989.
4. MBRS, NIH, Site review committee, California State U., Los Angeles, February 1989.
5. Chairman, NIAID Special Review Committee for Conference Grant Application, NIH, February 1989.
6. MBRS, NIH Special Review Committee, Bethesda, MD, May 1989.
7. Ad hoc reviewer, National Science Foundation, Cellular Biology Program, March 1989.
8. Ad hoc reviewer, National Sciences Foundation, Cell Biology Program, September 1989.
9. Microbiology and Infectious Disease Review Committee (MIDRC), NIAID/NIH, 1986-1990.
10. Reviewers Reserve, NIAID/NIH, 1990-1994.
11. Montana Peer Review of State-Supported Grants, 1991-1992.
12. Infectious and Immunologic Diseases/Disorders Review Committee, Arizona Disease Control Research Commission, Arizona Dept. of Health Services, 1987-1992.
13. MBRS Ad hoc reviewer, MBRS Study Section, NIH Campus, Bethesda, January, 1991.
14. NIH Special Reviewer of MBRS Program, Bethesda, MD, February 1991.

15. Ad hoc reviewer, Microbiology and Infectious Disease Review Committee, NIAID-NIH, October 1991.
16. NIH, NIGMS Ad hoc Site Visit Team, Charles Drew University, Los Angeles, January 1992.
17. Microbiology and Infectious Diseases Review Committee, NIAID-NIH, Teleconference Ad hoc Review, August 1992.
18. Cell Biology Program Review Panel, National Science Foundation, September 1993-present.
19. Task Force Member, NIEHS/NIH and American Association for Cancer Research Subcommittee on the Advancement of Minorities in Science, Raleigh, NC, May 1994.
20. Task Force Member and Presenter, National Institute of Environmental Health Science, NIH, Task Force on the Advancement of Minorities in Science, February 1994.
21. NIEHS, NIH Special Study Section Reviewer, Grants on Environmental Justice, Raleigh, NC, June 1994.
22. National Institute for Dental Research, NIH, Working Group on Minority Recruitment and Retention in Oral Health Research Careers, NIH Campus, Bethesda, MD, January 1995.
23. Scientific and Technical Review Board Member, Biomedical and Behavioral Research Facilities, National Institutes of Health, 1995.
24. Advisory Committee Member, Office of Research on Minority Health (ORMH)-NIH, 1995-2000.
25. External Advisory Committee of Minority Programs (MBRS and MARC), University of New Mexico, 1995-1996.
26. Panel Review of Programs and Awards, Office of Research on Minority Health, NIH, Bethesda, MD, February 1997.
27. Review Committee, Research Centers in Minority Institutions (RCMI), NCRR/NIH, February 8-9, 1999.
28. Board of Scientific Counselors, National Institute of Dental and Craniofacial Research, NIH, 1995-1998.
29. Participant, Office of Research on Minority Health (ORMH), Symposium, "AIDS in Latin American Communities," Puerto Rico, November, 1996.
30. Member, Resource Consortium of Science and Engineering Advisors (Resource Consortium), United Information Systems, Inc. for support of NSF-Graduate Research Fellowship Program, 1998.
31. Reviewer, Environmental Justice Program, NIEHS/NIH, November 1-3, 1999.
32. Moderator, Tenth Anniversary Office of Research in Minority Health/NIH, National Meeting on "Challenges in Health Disparity in the New Millennium," Session on "NIH Supported Training Programs and Their Effectiveness," April 18, 2000.
33. National Advisory Council, Dental and Craniofacial Research Institute (NIDCR/NIH), January 17, 1999–November 30, 2002.
34. NIH Director's Council of Public Representatives (COPR) Associate, NIH, April 1999-2002.
35. Facilitator, NIDCR National Advisory Council Meeting, Discussion on Concept Clearances, July 1999.
36. Panel Member, NIDCR Training Initiatives, June 7, 2002.
37. Panel Member, National Institute of Dental Craniofacial Research (NIDCR) AIDS Expert Panel, April 16, 2002.
38. National Advisory Council, NIDCR/NIH, February 3, 2003.
39. Reviewer, The National Center for Minority Health and Health Disparities (NCMHD), Research Infrastructure for Minority Institutions (RIMI), NIH, August 8-10, 2004.
40. Blue Ribbon Panel Member, NIDCR/NIH, Bethesda, MD, June 2006.
41. Board of Scientific Counselors, NIDCR/NIH, 2005-2010.
42. Blue Ribbon Panel Member, NCMHD/NIH, New York City, January 31, 2007.
43. Search Committee, Deputy Director of NCMHD/NIH, 2007.
44. Chair, Special Working Group Meeting, NCMHD/NIH, New York City, January 31, 2007.
45. Reviewer, NIH Summit: The Science of Eliminating Health Disparities Awards Committee, The Director of the NCMHD/NIH Individual and Group Awards, December 2008.
46. Special Emphasis Panel, NCMHD/NIH. July 22-24, 2009.

47. ARRA Grant Panel Member, NCRR/NIH, July 12-14, 2009.
48. National Advisory Council, National Institute of Minority Health and Health Disparities, (NIMHD/NIH), June 2010-2012.

### **Scientific societies**

1. American Society for Microbiology, Full Member, 1974-present.
2. Society for the Advancement of Chicanos and Native Americans in Science, Life Member, 1994-present.
3. ASM Board of Education and Training, Minority Education Task Committee, 1990-1995.
4. ASM Public Relations Committee, 1991-1998.
5. ASM Steering Committee, National Centers for Infectious Diseases' (NCID) Resident Postdoctoral Research Program, Board of Education and Training, 1993-1998.
6. Member, NASA Minority Advisory Group, 1998-2000.
7. Member, Center Advisory Committee, National Diabetes Training Center, U. Illinois at Chicago, 1998.
8. American Society for Cell Biology (ASCB), 2000-2005.
9. American Society for Matrix Biology, 2001-2006.
10. Member, Ad hoc Committee of the American Academy of Microbiology (AAM) of the American Society for Microbiology, review current education guidelines, July 2001.
11. International Association for Dental Research (IADR) & American Association for Dental Research (AADR), 2005.

### **Undergraduate Institution Boards/Committees**

1. Howard Hughes Advisory Committee, Saint Mary's University, San Antonio, TX, 1991-2000.
2. Minority Biomedical Research Support Advisory Committee, Saint Mary's University, San Antonio, TX, 1994.
3. Member, Institutional Minority Biomedical Research Support (MBRS) Program Advisory Committee, University of Texas-San Antonio (UTSA), Dr. A.T.C. Tsin, Director, 1996-1997.
4. Member, Alamo Northwest Vista College, Research Technology/Clinical Assistant Focus Group, Assessment of Allied Health Professional Program, May 1997.
5. Member, Institutional MBRS SCORE External Scientific Advisory Council, UTSA, Dr. A.T.C. Tsin, Director, 8/1/99-7/31/01.
6. Member, MBRS SCORE Committee on Project Review, UTSA, Dr. A.T.C. Tsin, Director, 8/1/99-7/31/01.
7. Member, UTSA MBRS Committee on Project Review, Dr. A. Tsin, Director, 8/1/01-7/31/02.
8. Member, UTSA Institutional MBRS Advisory Committee, Dr. A. Tsin, Director, 8/1/01-7/31/02.
9. Member, External Advisory Committee, New Mexico Biomedical Research Infrastructure Network Program (BRIN) grant funded by NIH, 2002.-2004.
10. Member, External Advisory Committee, U. Washington-Seattle and Heritage College RISE/SCORE program, 2003.
11. Member and Chair, External Advisory Committee, RCMI Program Gene Center, Robert Dottin PhD, Director, Hunter College-CUNY, 1995-2011.
12. Member, External Advisory Committee, Brooklyn College-CUNY, Peter Lipke, Director, 2010-2015.
13. Member, External Advisory Board for Howard Xu, Associate Professor of Microbiology, California State University-Los Angeles, May 2011-2015.
14. Member, External Advisory Council for Salish Kootenai Tribal College RISE Program, Doug Stevens, PhD, Director, 2010-2015.

### **Graduate Institution Boards/Committees**

1. Chair of External Advisory Committee, Center for Study of Gene Structure and Function of the Research Careers in Minority Institutions at Hunter College, City University of New York, 1992-present.
2. Consultant, Kansas U. Medical Center, Training Program in Cancer Research, Director-David Morrison, Ph.D., 1996-2000.

3. Member, External Advisory Board, University of Texas Medical Branch-Galveston, Training Program on "Partnering to a Biomedical Ph.D." 1998-present.
4. Member, Steering Committee, Center for Cancer Control Research, "Special Populations Networks for Cancer Awareness, Research and Training," Baylor College of Medicine, April 2000-present.
5. Member, External Advisory Committee, Specialized Neuroscience Research Program (SNRP) funded by National Institute of Neurologic and Degenerative Disorders/NIH, U. Texas at San Antonio (UTSA), December 1999-2002.
6. Member, Michigan En San Antonio (MESA) Center Advisory Committee, U. Michigan School of Nursing partnership with UTHSCSA School of Nursing Underrepresented Minorities in Nursing Recruitment Program, 2002-2005.
7. Member, External Advisory Committee, Partnership Minority Health/Health Disparity Exploratory Center, School of Nursing, UTHSCSA and UT-Austin Schools of Nursing, 2002-2005.
8. Member, External Advisory Committee, Texas Tech Medical School P20 Health Disparity Grant, "The Evaluation and Research of the Underlying Mechanisms of Diseases that Impact the Mexican American in the Border City of El Paso, Texas, 2005.
9. Board of Visitors, The University of Maryland College of Chemical and Life Sciences, College Park, MD, 2007-2009.
10. Member and participating faculty, Center for Integrated Biotechnology, WSU, June 2008-2009.
11. Member and participating faculty, Center for Reproductive Biology, Washington State University, June 2008-present.

**Institute of Medicine, Independent National Boards, and Programs**

1. Member, Board of Intercultural Cancer Council, 1995-2004.
2. Honorary membership, Mexican American Physician's Association (MAPA), October, 1994-2004.
3. Board of Directors, Society for the Advancement of Chicano and Native American Scientists (SACNAS), 1994-1997.
4. Institute of Medicine, Invitation to Public Briefing, Report entitled, "*Women and Health Research: Ethical and Legal Issues of Including Women in Clinical Studies*," February 1994.
5. President-Elect, Society for Advancement of Chicano and Native American Scientists (SACNAS), 1996.
6. President, SACNAS, January 1, 1997-December 31, 1998.
7. Past-President, SACNAS, 1999.
8. Member, Board of Governors, Latino Science and Engineering Consortium, 1997-1998.
9. Member, Advisory Board, Native American Cancer Research Program, Genetic Education and Research, Linda Burhansstipanov, Director, Pine, CO., 1998-2002.
10. Institute of Medicine, Panel Member, National Research Council, "*Examination of Mechanism(s) by Which NIH Prioritizes Research Portfolio*," March 1998.
11. Member, Advisory Board, Wonderwise-At-Home Program, U. Nebraska, Judy Diamond, Ph.D., Director for Public Relations, May 1998-2001.
12. Institute of Medicine, External Reviewer, Report from the Committee on Environmental Justice, September 1998.
13. Institute of Medicine Reviewer, Report on "*Environmental Justice*" published March 1999.
14. Member, National Advisory Board, The Widmeyer-Baker Group Model Institutions in Excellence Program, PBS Special, *The Color of Science, Engineering, and Math* (a documentary addressing the underrepresentation of racial and ethnic minority students in SEM), 1999-2000.
15. Elected Member, Sigma  $\chi$ i Scientific Society, 1999.
16. Member, Sigma  $\chi$ i Society's Committee on Diversity, July 1, 1999-2003.
17. Nominee for Membership, First Advisory Committee on Minority Health, Office of Minority Health, Department of Health and Human Services. February 2000.
18. Member, Steering Committee, the *Redes En Accion*: Cancer Awareness, Research and Training, Baylor College of Medicine, 2000-2004.



19. Institute of Medicine, Panel Member, National Research Council, “*Understanding and Eliminating Racial and Ethnic Disparities in Health Care*,” November 2001.
20. Member, External Advisory Committee, Santa Fe Institute, 2001-2003.
21. Founding Chair and Member, Hispanic Association of Colleges and Universities (HACU)-Health Sciences Advisory Council (HSAC), November 22, 2002-2005.
22. Member, External Advisory Committee, National Minority Nurses Association, Nurse Stimulation Program, 2003-present.
23. Institute of Medicine, Panel Member, National Research Council, “*NIH Strategic Plan to Reduce and Ultimately Eliminate Health Disparities*,” 2004.
24. Member, Executive Committee of the Intercultural Cancer Council, February 2003-2004.
25. Member, Working Group for Institute for Hispanic Health, National Council of La Raza, Washington, DC National Office. March 2004-2005.
26. Member, Faculty of 1000 Medicine project as an STD Section Faculty Member, a PubMed Initiative, 2006.
27. Member and author of report, External Advisory Committee, Southwest Partnership Center, UT-Austin and New Mexico State University Schools of Nursing, 2003-2005.
28. Member, Honorary Committee to set agenda for the King Global Health Equity Project, Dr. Martin Luther King, Jr. Global Health Equity Symposium conducted by the Institute for the Advancement of Multicultural & Minority Medicine, February 2008-2014.
29. Member, Hispanic Association of Colleges and Universities Faculty and Staff Caucus, July 2008-2009.
30. Representative WSU, Government-University-Industry Research Roundtable, National Academy of Sciences, Washington, DC, February 11-13 and June 16-18, 2008.
31. Institute of Medicine, Panel Member, National Research Council, *Standing Committee on Biodefense*. National Academy of Sciences, November 2007-2011.
32. Institute of Medicine, Panel Member, National Research Council, *Standing Committee on the Department of Defense’s Program to Counter Biological Threats*,” August 2012—August 2015.

## **DEPARTMENTAL RESPONSIBILITIES**

### **UTHSCSA:**

Radiation Safety Officer, 1981-1982.  
Committee on Graduate Students, 1981-1987; Chairman, Committee on Admissions, 1981-1987.  
Committee on Graduate Studies, 1981-1992.  
Committee for Design of Laboratories, 1986.  
Committee of Dept. Tenure and Promotions, 1986-1988.  
Committee on Graduate Students, 1988-1991.  
Co-Chairman, Committee on Admissions, 1988-1991.  
Committee of Dept. Tenure and Promotions, 1988-1990.  
Minority Undergraduate Summer Internship Program, 1990.  
Committee of Dept. Tenure and Promotions, 1991-present.  
Faculty Search Committee, Immuno-pathogenesis position, 1992-1993.  
Director, Training Grant Program, “Molecular Mechanisms of Microbial Pathogenesis,” 1989-2000.  
Director, Training Grant Program, “Molecular Mechanisms of Viral Pathogenesis,” 1997-2002.  
Faculty Search Committee, Pathogenesis positions, 1996-1997.  
Faculty “Pool” Committee for expenditure of monies, 1997.  
Faculty Search Committee, Viral Pathogenesis position, 1997-1998; 2004-2005.  
Faculty Search Committee, Microbial Pathogenesis position, 1998-1999; 2004-2005.  
Chair, Committee to Recommend Graduate Student Admissions Policy, 2005.

### **School of Molecular Biosciences (WSU):**

2009-2012      Committee on Admissions to Graduate Program.  
2008-2009      Co-organizer (with Manuel Acevedo), “Inspiring a New Generation of Scholars and Scientists,” seminar series for Multicultural [Minority] Students and initiative to get undergraduate students in research laboratories.  
2010            Native American Health Science Advisory Council, WSU-Spokane.

2010 Outreach, Recruitment of Underrepresented Minorities.  
2012-2019 Tenure and Promotion Committee  
2010-2015 Professional Science Master's Program Curriculum Committee  
2012-2016 SMB Web/Facebook Committee  
2014-2021 Committee on Admissions to Graduate Program.

**UNIVERSITY RESPONSIBILITIES:**

**UTHSCSA:**

1981 Radiation Safety Committee.  
1982 Committee on Student Attrition.  
1982 Subcommittee on Student Recruitment.  
1982-1986 Institutional Grant Review Committee.  
1984 Steering Committee for Institutional Planning-Task Group for Ways and Means.  
1984 Advisory Committee for Center for Molecular Targeting.  
1985 Search Committee for Medical School Dean.  
1985 Centerwide Task Force on Review of Space Allocation Guidelines.  
1985 Advisory Committee on Graduate School Foreign Student Recruitment.  
1986 Institutional Committee for Review of Space Guidelines.  
1988-1989 Minority Recruitment Advisory Committee for the Graduate School of Biomedical Sciences.  
1989 Minority Student and Minority Faculty Councils, Graduate School Representative.  
1990-2000 Director, Training Program, "Molecular Basis of Microbial Pathogenesis", NIAID/NIH.  
1995 Member, Search Committee for, Associate Dean for Student Affairs, Graduate School of Biomedical Sciences.  
1995 Member, Committee for LCME Self-Study Evaluation, "Educational Program for the M.D. Degree," School of Medicine, UTHSCSA.  
1995-1996 Member, Search Committee for Chair, Dept. of Pathology, Graduate School of Biomedical Sciences.  
1996 Member, Southern Association of Colleges & School's Self Study Committee, UTHSCSA.  
1996-1998 Member, UTHSCSA Dental School Research Committee.  
1997 Chair, Ad hoc Advisory Committee, Selection of Comprehensive Oral Health Research Centers of Discovery Application, Dental School.  
1997-2002 Director, Training Program, "Molecular Basis of Viral Pathogenesis", NIAID/NIH.  
1996-2003 Dental School Committee to Evaluate Student Summer Research Internships.  
9/2000-12/01 Member (Ex-Officio), HSC Institutional Strategic Research Planning Committee (ISRPC).  
3/01 – 6/01 Member, ISRPC Sub-Committee to examine and make recommendations regarding Competitive Research Enhancement Fund (CREF).  
2001-2002 Member, Committee for LCME Study: Medical School Departments—Basic Science and Chair, Subcommittee for Space and Resources, UTHSCSA.  
06/01-12/01 Member, Core Governance Committee of UTHSCSA.  
06/02-06/06 Member, University Core Research Facilities Committee.  
07/02-06/05 CO\*STAR Track III Director for recruitment and training Ph.D. Candidates, Dental School.  
09/03-present DDS/PhD Admissions Review Panel (D-ARP), Dental School, UTHSCSA.  
11/03-06/04 Search Committee Member, Office of Vice President for Research, UTHSCSA.  
08/04 Internal Advisory Committee, UTHSCSA PREP Initiative.  
08/04-08/06 Presidential Teaching Excellence Award Committee.  
01/04-10/08 Leadership Council and Director of Track III (Ph.D. student training component), Dental School Comprehensive Training Program.

### **WSU & School of Molecular Biosciences:**

- 01/08-01/09 Radiation Safety Committee, *ex officio* Member, Office of Research, Washington State University.
- 01/08-01/09 Institutional Animal Care and Use Committee, *ex officio* Member, Office of Research, Washington State University.
- 01/08-01/09 Institutional Review Board, *ex officio* Member, Office of Research, Washington State U.
- 01/08-01/09 Chemicals of Interest Committee, *ex officio* Member, Office of Research, Washington State University.
- 01/08-01/09 Working Group, Office of Grants and Research Development, Office of Research, Washington State University.
- 01/08-01/09 Examine Centers, Institutes and Laboratories, Office of Research, Washington State University, 2008.
- 01/08-01/09 Examine and Write Responsible Conduct for Research for Graduate Students and Faculty, Office of Research, Washington State University, 2008.
- 01/08-01/09 Liaison, WSU Research Foundation Director for Intellectual Property and Technology Transfer and Faculty, Office of Research, Washington State University
- 01/2008-2009 Nuclear Research Center, Office of Research, Washington State University.  
2008-2009 Member, US Department of Homeland Security, Security Vulnerability Assessment on Chemicals of Interest, Office of Research, WSU.
- 2008-12/2010 Founding Organizer and Development of Workshop Series "Inspiring a New Generation of Scholars and Scientists," with Multicultural Student Services at WSU.
- 02008-12/2010 WSU Campus wide Initiatives for Outreach, Retention, and Promotion of Health Careers of Multicultural Students through collaborations with Multicultural Student Services.
- 09/09-08/2015 Minority Affairs Coordinator, Training Grant on Reproductive Biology.
- 01/10-08/2010 SMB Retreat Committee, WSU.
- 06/2010-2016 SMB Web/Facebook Committee, Moderators Subcommittee.
- 01/2009-2015 SMB Professional Science Masters Curriculum and Admissions Committee.
- 02/2012-2016 Member, Faculty Hearing Committee Panel, appointment by Elson Floyd, President, WSU.
- 03/2013-2015 Member, Steering Committee, WSU CVM Post-Baccalaureate Research Education Program (PREP).
- 2013-2021 SMB Graduate Student Recruitment Committee.

### **COMMUNITY SERVICE**

1. Science Club Lecturer for local middle and high schools, San Antonio, TX, 1983-85.
2. Community School Advisory Council, Patt Neff Middle School, Northside School District, San Antonio, TX, 1983.
3. United Way Citizen Review of Funded Agencies, San Antonio, TX, 1984-1988.
4. Science Club Lecturer, Saint Mary's Hall, San Antonio, TX, 1990.
5. Keynote Speaker, Science-Research Career Opportunities for Minorities, UT Alliance for Education, San Antonio, TX, 1991.
6. Curriculum Reviewer for Palo Alto College, San Antonio, TX, 1992-1993.
7. Keynote Speaker, Science-Microbiology Education for Undergraduates, Sponsored by Center for Health Policy Development, San Antonio College, May 1991.
8. Keynote Speaker, San Antonio College Summer Experience for First Year Minority College Students, San Antonio, TX, August 1991.
9. Keynote Speaker, Science-Microbiology Education Presentation, Edgewood High School, Edgewood School District, San Antonio, TX, December 1991.
10. Guest Speaker, Summer Enrichment Program, Center for Health Policy Development, San Antonio College, June 1992.
11. Keynote Speaker, Science Awards Presentations, Harlandale High School, San Antonio, TX, March 1993.

12. Keynote Speaker, PTA Science Presentations, Adams Elementary School, Harlandale School District, San Antonio, TX, January 1993.
13. Keynote Speaker, Adams Elementary School Student-Parent Science Organization, Sponsored by NSF Comprehensive Research Centers for Minorities, Harlandale School District, So. San Antonio, TX., January 1993.
14. Keynote Speaker, Harlandale High School, Science Day Awards Presentation, San Antonio, TX, March 1993.
15. Keynote Speaker, Mark Twain Middle School Science Organizations, San Antonio Independent School District, September 1993.
16. Keynote Speaker, Upward Bound Program for Community Schools Precollege High School Students of Low Socioeconomic Groups, Our Lady of the Lake University, September 1993.
17. Keynote Speaker, Honors Science Classes, Robertson High School, Las Vegas, NM, November 1993.
18. Keynote Speaker, NSF-Sponsored Math-Science-Engineering Initiative, Northern New Mexico Region, Las Vegas, NM, November 1993.
19. Keynote Speaker, San Antonio Alliance for Minorities in Engineering Math-Science Presentations, Tafolla Middle School, San Antonio, TX, December 1993.
20. Biotechnology Advisory Committee, Palo Alto College, San Antonio, TX, 1993-1994.
21. Mentor for Underprivileged Child, Mark Twain Middle School, San Antonio, TX, 1994.
22. Keynote Speaker, Parent-Teacher Association, Northside Independent School District, San Antonio, TX, March 1994.
23. Keynote Speaker, Awards Banquet, Tafolla Middle School, San Antonio Independent School District, May 1994.
24. Speaker, High School Students and Teachers, Hispanic Center of Excellence, UTHSC, San Antonio, TX, June, 1994.
25. Speaker, Career Awareness Presentation, UTSA Science Prep Program, UTSA, San Antonio, July, 1994.
26. Speaker, Student Education Program, Center for Health Policy Development, San Antonio College, San Antonio, July, 1994.
27. Speaker, High School Student Med Prep Program, Sponsored by Mexican American Physician's Association (MAPA), San Antonio, TX, November, 1994.
28. Speaker, Sigma Zeta Society, Our Lady of the Lake University, The Science and Math Honorary Society, San Antonio, TX, November 1994.
29. Keynote Speaker, Science Awards Banquet, Tafolla Middle School, San Antonio Independent School District, San Antonio, TX, February 1995.
30. Speaker, High School Student Med-Prep Program, Sponsored by Mexican American Physician's Association, San Antonio, TX, February 1995.
31. Estrellas de Mi Barrio Honor, Woodlawn Elementary School, San Antonio, TX, March 1995.
32. Keynote Speaker, Burbank High School, Math, Science and Engineering Awards Banquet, San Antonio, TX, May 9, 1995.
33. Speaker, Student Enrichment Program, Center for Health Policy Development (CHPD), San Antonio College, San Antonio, TX, July, 1995.
34. Speaker, High School Student Med-Prep Program for Disadvantaged Youth, Sponsored by MAPA, San Antonio, TX, January 1996.
35. Keynote Address, UTHSCSA Biomedical Program for High School Students, San Antonio, TX, May, 1996.
36. Speaker, CHPD Summer Enrichment Program for Economically and Educationally Disadvantaged Chicano Students, San Antonio College, San Antonio, TX, July 1996.
37. Speaker, Mexican American Physician's Association, Med-Prep Health Careers Program for High School Students, Incarnate Word College, San Antonio, TX, October 1996.
38. Speaker, Burbank High School Honors Biology, San Antonio, TX, November 1996.
39. Speaker, Clark High School, Biology classes, San Antonio, TX, November 1996.
40. Keynote Address, Career Day, St. Francis Academy Girls High School of San Antonio, January 1997.

41. Keynote Speaker, Awards-Tafolla Middle School, San Antonio Independent School District, May 1997.
42. Scientist-Role Model Speaker, Honors Science High School Students, Wendell Holmes High School, San Antonio, TX, May 1997.
43. Speaker, The Prefreshman Engineering Program (PREP) at San Antonio College, July 23, 1997.
44. Resource Faculty/Role Model Presenter, Health Science Education, Project Mobilizing in Academics and Sciences II, Center for Health Policy Development, Inc., San Antonio, TX, August 6, 1997.
45. Speaker, The Freshman Class, Sexually Transmitted Diseases and At-risk Behavior, Burbank High School, San Antonio Independent School District, San Antonio, TX, September 3, 1997.
46. Keynote Speaker, Society for Mexican American Engineers and Scientists Texas A&M Chapter, San Antonio, November 8, 1997.
47. Speaker, Mexican American Physician's Association, Med-Prep Health Careers Program for High School Students, Incarnate Word College, San Antonio, TX, October 1997.
48. Keynote Speaker, Natalia High School Higher Education Issues Program, Natalia, TX., March 26, 1998.
49. Keynote Speaker, Blessed Sacrament Academy, Charter High School, Southside San Antonio, On "*San Antonio's Promise: The Alliance for Youth*," May 9, 1998.
50. Resource Faculty/Role Model Presenter, Health Science Education, Project Mobilizing in Academics and Sciences II, Center for Health Policy Development, Inc., San Antonio, TX, July 16, 1998.
51. Speaker, Mexican American Physician's Association, Med-Prep Health Careers Program for High School Students, Incarnate Word College, San Antonio, TX, December 1998.
52. Career Day Speaker, Woodlawn Hills Elementary School, San Antonio School District, December 11, 1998.
53. Judge, Student Science Presenters, Mexican American Engineers and Scientists International Meeting, San Antonio, TX, January 21, 1999.
54. Big Brothers Big Sisters Program, San Antonio, TX, 1999-2000, Little Brother Joshua Moncivais.
55. Speaker, Center for Health Policy Development, Inc., Summer Enrichment Program for Disadvantaged First Year Entering College Students, July 19, 1999.
56. Las Vegas School District Middle School Students, Research in Biology, October 25, 1999.
57. Speaker, Alamo Area Student Intervention Alliance (AASIA), 5<sup>th</sup> Annual College and Career Fair, Lanier High School, San Antonio, December 4, 1999.
58. Speaker, Center for Health Policy Development Sponsored Saturday Morning Science Camp on the UTHSCSA Campus, Allied Health Building, High School Students and Parents, December 11, 1999.
59. Speaker, Mexican American Physicians Association (MAPA) Med-Prep Program, High School Students and Parents, on "What Students Need for Higher Education." December 18, 1999.
60. Speaker, Eukaryotic Pathogenesis Research Conference, "*Trichomonas vaginalis*: Virulence Molecules and Pathogenicity Mechanisms," March 23, 2000.
61. Opening Address, Mexican American Physicians Association Med-Prep Program, High School Students and Parents, September 2000.
62. Speaker, Palo Alto College Journal Club in Biology, "STDs, You and Education," October 27, 2000.
63. Speaker, Northside Gifted and Talented Student Science Program workshops, on "Playing With Fire: Seeing the World's Number 1 STD Parasite," UTHSCSA-Dental School, October 30, 2000.
64. Speaker, Community Based Organization Networking and South Texas Family AIDS Network meeting, *Trichomonas vaginalis*, STDs, and HIV, San Antonio, February 21, 2001.
65. Speaker and Co-organizer, Session on Microbiology, UTHSCSA Summer Biomedical Workshop for Laredo High School Students, June 18-22, 2001.
66. Session presenter and organizer of visit to UTSA, UTHSCSA Summer Biomedical Workshop for Laredo High School Students, Tuesday, June 19, 2001.
67. Exhibitor and Presenter, UTHSCSA Discovery Day for community, November 17, 2001.

68. E-Mentor, Teacher-Scientist Partnership, SACNAS Inspiring Inquiry Project, February 1, 2002-present.
69. Speaker, Outreach Med-Ed Program students of the Lower Rio Grande Valley, March 15, 2002.
70. Participant, Center for Health Policy Development, Inc. and UTHSCSA SURF and Undergraduate Students' Programs meeting, July 19, 2002.
71. Speaker, Summer Enrichment Program, Center for Health Policy Development, Inc., August 21, 2002.
72. Keynote Speaker, Mexican American Physicians Association MED-PREP Program for High School Students, September 7, 2002.

**School of Molecular Biosciences (WSU):**

73. Inaugural Speaker, Inspiring the Next Generation of Scholars and Scientists, a Workshop for WSU Undergraduate Students for Involvement in Research Laboratories, Spring Semester, 2008.
74. Attended, Hispanic Academic Achievement Program Banquet, May 30, 2008.
75. Speaker, Summer Outreach Program for STEM High School Students, June 3, 2008.
76. VideoConference Speaker, Presentation to Department of Biology Undergraduate Students in STEM, St. Edward's University, Austin, TX, October 31, 2008.
77. Speaker, Pasco High School at Washington State University CAMP Program. October 31, 2008.
78. Speaker, Imagine U of Washington State University Outreach Program, Sunnyside High School, Sunnyside, WA, Monday, November 24, 2008.
79. Speaker, Inspiring the Next Generation of Scholars and Scientists, a Workshop for WSU Undergraduate Students for Involvement in Research Laboratories, September 15, 2009.
80. Speaker, Latino Educational Achievement Project Academic Showcase, Tacoma, WA, February 20, 2010.
81. Speaker, Alive Bilingue Program for Parent and Students, WSU, June 26, 2010.
82. Speaker, Society for Latino Engineers and Scientists (SOLES) Latino Parent Conference, WSU, March 7, 2014.

**SPONSORED [SATURDAY MORNING] SCIENCE-LABORATORY TOURS at the UTHSCSA (1989-2005) and High School Student Presentations at WSU (2010-present)**

1. Trinity Pre-school Kindergarden students and teachers, fall 1989.
2. So. Texas Valley Schools, 100 students, parents and teachers, fall 1991.
3. Mark Twain Middle School, 100 students, parents and teachers, spring 1994.
4. Eagle Pass High School, 100 students, parents and teachers, fall 1994.
5. East San Antonio Elementary School, 100 students, parents and teachers, spring 1994.
6. Mark Twain Middle School, 100 students, parents and teachers, spring 1994.
7. Eagle Pass High School students, parents and teachers, November 1994.
8. Mark Twain Middle School students, parents and teachers, January 1995.
9. Med-Prep High School Students, Mexican American Physician's Association Program, February 1995.
10. Booker T. Washington Elementary School students, parents and teachers, May 1995.
11. Summer Enrichment Program High School students, Center for Health Policy Development, Inc., July 1995.
12. New Mexico Highland's University Upward Bound Program for Forty Northern New Mexico Community High School Students of Low Socioeconomic Groups, February 1996.
13. Summer Enrichment Program of San Antonio College Students, Center for Health Policy Development, Inc., July 26, 1996.
14. Med/ED Program of South Texas Border Initiatives, UTHSCSA, March 13, 1997.
15. Esparza Elementary School, Northside Independent School District (ISD) (Ms. W. Worrell-Teacher), October 4, 1997.
16. Holmes High School Biology Honors and Advanced Placement Class (Ms. L. McCormick-Teacher), Northside ISD, November 8, 1997.
17. Colby Glass Elementary and Glenoaks Elementary (Ms. L. Worrell-Teacher), Northside ISD, March 7, 1998.



18. Burbank High School International Baccalaureate Magnet School Program for Advanced Students (Ms. Sue Creech-Teacher), SAISD, April 4, 1998.
19. San Antonio School District Middle School Students and Parents, Allied Health Building, UTHSCSA, Sponsored by Center for Health Policy Development, Inc., July 30, 1999.
20. San Antonio School District High School Students and Parents, Allied Health Building, UTHSCSA, Sponsored by Center for Health Policy Development, Inc., August 7, 1999.
21. Burbank High School Honor's Biology Students (Melissa Cervantes, Francine Trevino, Natalie Olivares, and Adriana Mateos), Ms. Sue Creech, Chair, Biology, January 26, 2000.
22. Palo Alto College and San Antonio College Journal Clubs in Biology for students interested in biomedicine, November 3, 2000.
23. Laredo High School Honors Students, Sponsored by UTHSCSA Summer Biomedical Workshop, June 20 evening, 2001.
24. McCollough High School, Anatomy Science Speakers Series, November 14, 2003.
25. Southwest High School Honors Biology Research Class, December 10, 2003.
26. Southwest High School Honors Biology Research Class, May 7, 2005.
27. Alive Bilingual Program for Parents and Students, June 27, 2010.
28. Toppenish High School Global Health Presentation, April 26, 2011.
29. 16<sup>th</sup> Annual Na-ha-shnee (Native American) Health Science Institute Camp at WSU, June 29 and 30, 2011.
30. WSU Honors College Freshman Students, Undergraduate Research Experiences and Science Career Opportunities, October 24 and 26, 2011.

## **TEACHING RESPONSIBILITIES**

### **UTHSCSA:**

- Medical Microbiology-Medical Students (1981-1985).
- Dental Microbiology-Dental Students (1981-1985).
- Pathogenic Microbiology -Graduate Students (Coordinator from 1981-1989).
- Bacterial Physiology-Graduate Students (lecturer from 1981-1986).
- Pathogenic Microbiology-Graduate Students (lecturer from 1981-1998).
- Medical Microbiology-Graduate Students (lecturer from 1993-2007).
- Med. Microbiology Laboratories-Medical Students (1981-1998)
- Med. Microbiology Conference Leader (2000).
- Dental Microbiology Laboratories—Dental Students (1999-2007).
- Dental Microbiology Conference Leader (1999-2007).

### **School of Molecular Biosciences-WSU:**

- **Course Director, MBioS 446 Epidemiology course, 2013-present.**
- **Course Director, MBioS 494, Senior Writing-in-the-Majors and Seminar Capstone Course in Microbiology, 2009-2018.**
- Co-Instructor, MBioS 503, Molecular Biology I. fall 2008-2014.
- Instructor, Honors College 290, Science as a Way of Knowing, spring 2010.

### **AD HOC REVIEWER (Scientific articles)**

1. Acta Parasitologica, 1997, 2002, 2004.
2. American Journal of Pathology, 1986.
3. American Journal of Reproductive Immunology, 2007.
4. Annals of Tropical Medicine and Parasitology, 2007.
5. Antimicrobial Agents and Chemotherapy, 1999.
6. Applied and Environmental Microbiology, 2004.
7. Archives of Medical Research, 1985-present (member, editorial board).
8. Biology of the Cell, 2002.
9. BMC BioTechnology, 2008.
10. BMC Microbiology, 2005-2015 (member, editorial board).
11. BMC Research News, 2005-2015 (member, editorial board).

12. Cellular Microbiology, 2004.
13. Clinical Infectious Diseases, 1994, 2000.
14. Clinical Microbiology Reviews, 1997, 2004.
15. Diagnostic Microbiology and Infectious Diseases 1993.
16. Eukaryotic Microbiology, 1994-1995.
17. Experimental Parasitology, 1987-2001 (member, editorial board).
18. Expert Review of Anti-infective Therapy, 2005.
19. FEBS Letters, 2003, 2004.
20. FEMS Microbiology Letters, 2010, 2012.
21. FEMS Immunology and Medical Microbiology, 2002-2003.
22. FEMS Letters, 2004-2015.
23. Folia Parasitologica, 2009
24. Gene, 2003, 2004.
25. Genitourinary Medicine, 1988-1995.
26. Genetics, 2001, 2004.
27. Human Parasitic Diseases, 2010.
28. Immunology and Infectious Diseases, 1991.
29. Infection and Immunity, 1978-1985, 2000-present (past member, editorial board).
30. International Journal of Biochemistry and Cell Biology, 2003, 2005.
31. International Journal of Microbiology, 2008.
32. International Journal of Parasitology, 1995, 1996.
33. IN VITRO Cellular & Developmental Biology, 1999.
34. Journal of the Arkansas Academy of Science, 2004.
35. Journal of Bacteriology, 1986-1995, 2004.
36. Journal of Clinical Microbiology, 1998, 2002-2014.
37. J. Clinical Pathology, 2005.
38. Journal of Eukaryotic Microbiology, 1993.
39. Journal of Infectious Diseases, 1991; 2002, 2004.
40. Journal of Leukocyte Biology, 1989.
41. Journal of Molecular Biology, 2005.
42. Journal of Parasitology, 1987-1995.
43. Journal of Protozoology, 1992.
44. Journal of Virology, 1994-2000.
45. Korean J. Parasitology, 2011-2012.
46. Microbes and Infection, 2013.
47. Molecular and Biochemical Parasitology, 1983, 2009, 2011.
48. Molecular Microbiology, 2003, 2004.
49. Nucleic Acid Research, 2008.
50. Parasitology, 1990-present.
51. Parasitology International, 2002, 2009-2011.
52. Parasitology Research, 1997, 2008.
53. PLoS ONE, 2009.
54. Phytochemistry, 2010.
55. Proceedings of the National Academy of Sciences, 1986, 1992.
56. Science, 1984-1987.
57. Sexually Transmitted Infections, 2004, 2007.
58. Society for Experimental Biology and Medicine, 1985.
59. Trends in Parasitology, 2001.
60. Transactions of the Royal Society of Tropical Medicine and Hygiene, 2011.
61. Tropical Medicine and Parasitology, 1985.
62. Vaccine, April 2013.
63. Venereology (Australian J.), Oct. 2000.

64. Virus Research (International J), 2007

### **CO-FOUNDER OF BIOTECH COMPANIES**

Xenotope Diagnostics, Inc., 2001, San Antonio, TX.

Mayfield Bioscience, Inc., 2010, Pullman, WA.

Pearls Diagnostics, LLC, January 2014, Pullman, WA.

### **CONSULTING AND RELATIONS WITH BIOTECH COMPANIES**

Cistron Technologies, Inc., Pine Brook, NJ, 1982-1987.

Sangstat, Menlo Park, CA, 1988.

Boehringer Mannheim, Indianapolis, IN, 1989-1992.

BioKit Labs, Barcelona, Spain, 1988-1994.

Centocor, Malvern, PA, 1992.

Molecular Diagnostics Ltd., United Kingdom, 1996.

Litmus Concepts, Inc., Sunnyvale, CA, 1998.

Hispanic Association of Colleges and Universities (HACU), 1999-2007.

Chief Scientific Advisor, Xenotope Diagnostics, Inc., San Antonio, TX. 2001-2006.

Chief Scientific Advisor and Co-Founder, Mayfield Bioscience, Inc., Palo Alto, CA, April 2010-present.

Liming Bio-Products Co., Ltd, Nanjing, Jiangshu, China, August 2010.

### **COLLABORATIONS**

1. Marlene Benchimol, Ph.D., Universidade Santa Ursula, Rio de Janeiro, Brazil, 1999.
2. Karen Wendel, M.D., Oklahoma University Health Science Center, 2001-2004.
3. A.M. Rampalo, M.D. and E.J. Erbelding, M.D., Johns Hopkins University, 2001-2003.
4. Elizabeth Platz, M.D., Johns Hopkins, University, 2004-2008.
5. Petrus Tang, Ph.D., Chang Gung Memorial Hospital and Research, 2004.
6. Lorelei Mucci, M.D., Harvard Medical School, 2008-2010.
7. Gary Garber, M.D., Ottawa General Hospital Medical, Ottawa, Ontario, Canada, 2004.
8. Rossana Arroyo, Ph.D., CINVESTAV-IPN, Mexico City, DF., 2006-2008.
9. Santanu Bose, Ph.D., U. Texas Health Science Center at San Antonio, 2008.
10. Imelda Lopez-Senor, Ph.D., Departamento de Biología Molecular y Biotecnología, Instituto de Investigaciones Biológicas, Universidad Nacional Autónoma de México, 2007-2010.
11. Celia Maria de Almeida Soares, Laboratorio de Biología Molecular, Instituto de Ciências Biológicas, Universidade Federal de Goiás, Brazil, 2009-2010.
12. Natalia Teleshova, PhD., Rockefeller U., 2010.
13. Brenda Hernandez, PhD., Cancer Research Center, U. Hawai'i, 2010.
14. Louis Weiss, M.D., and Leopold Koss, MD, Dept. Medicine and Pathology, Albert Einstein College of Medicine, Bronx, NY, 2009-2012.
15. PalmStat Diagnostics, LLC, Michael Prystowsky, Director, Philadelphia, PA, 2009-2012.
16. Hunter Fraser, PhD, Stanford U., 2010-2012.
17. Lisa Signorello, PhD, Vanderbilt U., 2009-2015.
18. Siobhan, Sutcliff, Ph.D. Siteman Cancer Center, Washington University-St. Louis, 2004-2015.
19. Jeffrey Peipert, MD, Department of OB/Gyn, Washington U-St. Louis, 2012-2016, 2019.
20. Jose A. Escario G<sup>a</sup>-Trevijano, Catedrático de Parasitología, Facultad de Farmacia, Universidad Complutense, Madrid, Spain, 2013-2018.
21. Luisa Elvira Torres Sanchez, Nat'l. Inst. Public Health, Cuernavaca, Morelos, MX 2016-2017.

### **Ph.D. GRADUATE STUDENTS DIRECTED**

1. Kenneth M. Peterson, Ph.D. (1981-1984) [Professor-LSU Medical Center]
2. Michael Lehker, Ph.D. (1986-1991) [Professor, UT Brownsville]
3. M. Ali Khoshnan, Ph.D. (1990-1994) [Res. Asst. Prof, Cal Tech]
4. Jean Engbring, Ph.D. (1992-1997) [Postdoctoral Fellow, NIH/NIDR, (industry)].
5. Marie-Laure Crouch (1995-2000) [Research Asst. Professor, U. Washington-Seattle]
6. Erica P. Wargo (1995-2000) [Unknown]
7. Ana Garcia (2001-2007) [Postdoctoral Fellow, Dept. Molecular Medicine, UTHSCSA.

### **M.S. STUDENT DIRECTED**

1. Sue Creech, M.S., 1997. (Department of Biology, Burbank High School, San Antonio, TX)

### **THESIS COMMITTEES SERVED--UTHSCSA**

1. Maria Yeung, PhD, Department. of Microbiology, UTHSCSA.
2. Roy Almeida, MS, Department of Microbiology, UTHSCSA.
3. Bill Lutton, PhD, Department of Microbiology, UTHSCSA.
4. Renée DeShambo, PhD, Department of Microbiology, UTHSCSA.
5. Kris Abraham, PhD, Department of Microbiology, UTHSCSA.
6. Kevin Bentley, PhD, Department of Cellular and Structural Biology, UTHSCSA.
7. Ju-Fay Chang, PhD, Department of Microbiology, UTHSCSA.
8. Ruben Muñoz, PhD, Department of Microbiology, UTHSCSA.
9. Mustak Pirbhai, PhD, Department of Microbiology, UTHSCSA.

### **THESIS COMMITTEES SERVED-WSU**

10. Isaura Gallegos, MS, School of Molecular Biosciences (SMB), WSU.
11. Tyson Eucker, PhD, SMB, WSU.
12. Eleni Alexiou Elkin, MS, WSU, SMB Professional Science Master's (PSM) Program.
13. Archi Hogan, MS, WSU, SMB PSM Program.
14. Scott Medley, MS, WSU, SMB PSM Program, 2013-2014.
15. Tanis Marie Jimenez, MS, WSU, SMB PSM Program, 2013-2014.
16. Margorie Tucker, MS, WSU, SMB PSM Program, 2013-2014.
17. Amanda Grimm, MS, WSU, SMB PSM Program, 2016-2019.

### **EXTRA-INSTITUTIONAL COMMITTEE MEMBER--UTHSCSA**

1. Karen C. Mysick, Ph.D. Thesis, Department of Microbiology, U. Ottawa, Ottawa, Canada, 1996.
2. Maria Elizabeth Alvarez Sanchez, Ph.D. Thesis, Department of Pathology, CINVESTAV-IPN, Mexico City, 1995-2000.
3. Kate McGucken, M.S. Thesis, Department of Microbiology, Immunology & Molecular Biology, Thesis Advisor Tanya Miura, U. Idaho, 2008-2012.
4. Neetha Bhojraj, Ph.D. Thesis, Nelson R. Mandela School of Medicine, U. Kwazulu Natal, Private Bag X7, Congella, Durban, South Africa, February 2010.

### **EXTRA-INSTITUTIONAL COMMITTEE MEMBER—WSU**

5. Omayra Rivera, MS Thesis, Department of Microbiology, Immunology & Molecular Biology, Thesis Advisor Gustavo Arrizabalaga, U. Idaho, 2010-2012.
6. Mandy Kuan, PhD Thesis, Department of Microbiology, Immunology & Molecular Biology, Thesis Advisor Lee Fortunato, U. Idaho, 2010-2015. Dissertation June 2015.
7. Alexandra Ibanez Escribano, Departamento Parasitologia, Facultad de Farmacia, Universidad Complutense de Madrid, Madrid, Spain, 2013-2015, Advisor Prof. Jose Antonio Escario Garcia-Trevijano, Dissertation December 2015.
8. Irene Heredero, Departamento Biomedicina y Biotecnologia, Facultad Farmacia, Universidad de Alcalá, Alcalá, Spain, 2013-2015, Advisor Prof. J. Perez Serrano, Dissertation December 2015.

### **POST-DOCTORAL FELLOWS**

1. D. Denee Thomas, Ph.D., 1983-present, Professor (tenured)., UTHSC-San Antonio, TX.
2. Kenneth M. Peterson, Ph.D., 1984-present, Professor (tenured), Louisiana State University School of Medicine, Baton Rouge, LA.
3. Kathy Neale, Ph.D., 1987-1989.
4. Don C. Dailey, Ph.D., 1987-1991, Professor (tenured)., Austin Peay State University, Clarksville, TN.
5. AnPing Chen, Ph.D., 1991-1992. (did second postdoc, U. Florida).
6. Michael Lehker, Ph.D. 1991-1996, Professor, Dept. of Biology, UT-El Paso, TX.
7. Rossana Arroyo, Ph.D., 1987-present. Professor, Dept. of Pathology, CINVESTAV, Mexico City.
8. Kathryn Bigger, Ph.D., 1993-1994. Staff, Institute of Biotechnology, UTHSCSA.
9. Maria Addis, Ph.D., 1994-1996. Staff Fellow, Institute of Microbiology, U. Sassari, Sardinia, Italy.

10. Ali Khoshnan, Ph.D., 2001-2003., Res. Asst. Prof., California Institute of Technology.
11. Oxana Musatovova, Ph.D., 1996-1998, Senior Investigator, UTHSCSA.
12. Kevin Millsap, Ph.D., 1999—2001, Scientist at Biotechnology Industry.
13. Michael W. Lehker, Ph.D., 1998-2004, Professor, UT Brownsville.
14. Tiana Tasca, Ph.D., 2004-2005, Professor, Faculdade de Farmacia Universidade Federal do Rio Grande, Oporto Alegre, Brasil.
15. Vasanthakrishna Mundodi, Ph.D., 2002-2009, Second Postdoc, UTHSCSA.
16. Ashwini S. Kucknoor, Ph.D., 2002-2009, Research Assistant Professor, Lamar U-Houston.
17. Amrita Lama, Ph.D., 2008-2009. WSU-Pullman; 2nd postdoc at Oregon Hlth. Science. Center, Portland.

**at UTHSCSA: UNDERGRADUATE MINORITY FELLOWS [all graduated from college/university]**

1. Phillip Hernandez, University of Texas at San Antonio (UTSA), academic year 1982-1983.
2. Ted Segura, UTSA, academic year 1983-1984. [Received M.D./Ph.D.-UTHSCSA]
3. Roberta Peña, UTSA, 1984.
4. Frank Santos, UTSA, academic year 1984-1985.
5. Ralph Rodriguez, UTSA, 1985.
6. Patricia Guerra, St. Mary's University, San Antonio, TX, academic year 1989-90.
7. Ricky Ochoa, Southwestern University, Georgetown, TX, summer 1990.
8. Melissa Wilson, Dillard University, New Orleans, LA, summer 1990.
9. Jocelyn Garcia, New Mexico State University, Las Cruces, NM, 1992.
10. Ryan Yellowman, Navajo Community College, Shiprock, NM, summer 1993.
11. Leticia Vargas, Incarnate Word College, San Antonio, TX, spring 1994.
12. Elena Marques, Barcelona, Spain, summer 1994.
13. Carlo Martinez, U. Texas at San Antonio, summer 1997.
14. Julio Ramirez, San Francisco State University, Academic Yr 2000-2001.
15. Christopher Villa, Saint Mary's University, summer 2001.
16. Annette Lopez, Stanford University, summer 2002.
17. Prescilla Naomi Camacho, Incarnate Word, summer 2004.

**at WSU: UNDERGRADUATE FELLOWS—Laboratory Experiences**

18. Maryam Alomran, WSU MS student from Saudi Arabia, Master's in Biology. Summer 2009.
19. Quynh Le, WSU UG student; to present abstract and attend the SACNAS Annual Conference, October 2009 and Summer 2010. Assisted with scholarship and medical school applications.
20. Awndre Gemeche, WSU UG student; intern in laboratory. Recipient of ASM Undergraduate Summer Internship Scholarship. 2008-2009.
21. Andrea Meier, UC-Santa Barbara UG student; summer laboratory internship, 2008.
22. Beilul Ogbazghi, WSU UG student; laboratory internship, academic year 2008-2009.
23. Katherine Lee Delaney-Shives, WSU UG student; laboratory internship, spring 2009.
24. Katherine Rempe, WSU UG student, Honors College, laboratory internship, fall 2009.
25. Elizabeth M. Graham, WSU UG student, Honors College, laboratory internship, fall 2009.
26. Daniel Gregory, WSU UG, summer 2009-present. (Graduate School fall 2010)
27. Calvin Neace, WSU Senior, summer 2010 intern-present (Graduate School fall 2011)
28. Venesity Sepulveda, WSU Sophomore, academic year 2010.
29. Janelle Lugo, WSU Freshman, spring 2011.
30. Michelle Busch, WSU Junior, spring semester 2010-fall semester 2011.
31. Lawrence P. Alderete, U. New Mexico senior, summer-2011.
32. Rossetti Celis, WSU Sophomore summer through fall semester 2011.
33. Jared Karstetter, WSU UG student, Honors College and Scholar Athlete, laboratory intern, academic year 2009-fall semester 2011.
34. Patrick Joyce, WSU Junior, fall semester 2010-present. (Auvil Scholarship recipient).
35. Adan Medina, WSU Sophomore, summer 2011-2013 (graduate student WSU).
36. Cynthia A. Tan, WSU Junior, fall semester 2011.
37. Ka Yan (Clare) Tang, WSU Senior, academic year 2011-2013.
38. Nick Negretti, WSU Freshman, spring semester and summer internship, 2012.

39. Cassandra (Casey) Jacqueline Enzler, fall semester 2012.
40. Tiffany Hanson, WSU Senior, academic year 2012-2013.
41. Evan Klein, WSU Sophomore, Honors College, academic year 2013.
42. Sarah Privatt, WSU Sophomore, Honors College, academic year 2013.

**PREMIO ENCUESTRO AWARD HISPANIC UNDERGRADUATE INTERNSHIP FELLOWS [all graduated from college/university]**

43. Leticia Vargas, Palo Alto College, San Antonio, TX, summer 1993.
44. Sabrina Saenz, UT-Pan American, Edinburg, TX, summer 1993.
45. M. Ivonne Wallace, Southwestern University, Georgetown, TX, summer 1993.
46. Omero Lopez, Texas A&M University, College Station, TX, summer 1994.
47. Richard Rivera, University of Puerto Rico, Puerto Rico, summer 1994.
48. Gilbert Lara, UT-El Paso, TX, summer 1994.

**MEXICAN AMERICAN PHYSICIAN'S ASSOCIATION UNDERGRADUATE SUMMER INTERNSHIP FELLOWS**

49. Dora Mendoza, University of Texas at San Antonio, summer 1995.

**HIGH SCHOOL STUDENT INTERNS [all have graduated from college or are presently enrolled in college/university]**

50. John P. Alderete, III, Clark High School, Northside Independent School District, San Antonio, TX, Summers 1986-1989; [B. S., Reed College, 1993; Ph.D., U. Washington at Seattle, 1999].
51. Omero Lopez, East Central High School, East Central School District, San Antonio, TX, 1991-1993. [Ph.D., Oklahoma State University, Department of Entomology].
52. Mary Ann Martinez, Saint Mary's Hall, San Antonio, TX, 1991-1992. [B.S., Trinity University, San Antonio].
53. Andrew P. Alderete, Clark High School, Northside Independent School District, San Antonio, TX, 1995-1996 and Summer 1998. [B. A., Swarthmore University, 2002].
54. Elizabeth Verner, Alamo Heights High School, Alamo Heights Independent School District, summer 1996. [B.S., Baylor University, 2001].
55. Alex Musatov, Clark High School, Northside Independent School District, San Antonio, TX, summer 1996. [B.A., St. Mary's University, San Antonio, 2001].
56. Ann M. Portele, Clark High School, summer 1997. [B.A., TX A&M University, College Station, 2002].
57. Amelie Ramirez, High School Honors Program, International School of the Americas, Lanier High School, Northside Independent School District, San Antonio, TX, Academic Yr. 1999-2000. [B.S., TX A&M University, College Station, 2005].
58. Melanie Aranda, Reagan High School, Northeast Side Independent School District, summer 2001. [B.S., Texas Tech University, Lubbock]
59. April Acuna, East Central ISD High School, spring, 2002.
60. Raul Nandin, Southwest High School, summer 2004, attends Incarnate Word U., San Antonio, TX.
61. Andrew King, Churchill High School, fall 2004.
62. Joe Diaz, Central Catholic High School, summer 2005, attends UT-Austin.
63. Roxanne Chavez, Southwest High School, summer 2006, UT-Austin, summer 2007.
64. Megan Cobarruvias, Holmes High School, summer 2007.

**MEDICAL STUDENTS**

65. Larry Benavidez (1st year, 1985)
66. Angie Palafox (senior year, 1997), Recipient of Fellowship Program in Academic Medicine.

**at WSU: AD-HOC STUDENT ADVISING and Letters of Recommendation**

1. Chelsea Fisher, 2009 WSU graduate, (medical school), 2013 academic year.
2. Quynh Le, 2009 WSU graduate, (medical school), 2010 academic year.
3. Christopher Van Der Horn, 2009 WSU graduate, (graduate school, U. Colorado).



4. Dan Guerra, WSU junior, fall 2010.
5. Erin Feller, WSU junior, fall 2010.
6. Quynh Le, WSU senior, 2010 (**Osteopathic medicine**)
7. Chris Van Horn, WSU senior (**graduate school**)
8. Heather Enlow, Senior, WSU Honor's College, 2011.
9. Casey Callahan, WSU Sophomore, spring 2011.
10. Alisha McBride, WSU Sophomore, spring 2011.
11. Kimberly Ellis, WSU Sophomore, spring 2011.
12. Adan Medina, WSU Sophomore, (**graduate school**), spring 2011.
13. Rossetti Celis, WSU Sophomore, fall 2011.
14. Katherine D. Lynch, WSU Junior, fall 2011.
15. Cynthia Tan, WSU Sophomore, fall 2011.
16. Evan D. Klein, WSU Freshman, fall 2011.
17. Sheela VanRees, WSU Junior, fall 2011.
18. Weston Spivia, WSU graduate, (**graduate school, CSU-Long Beach**), fall 2011.
19. Ka Yan (Clare) Tang, WSU Senior, class of 2012.
20. Tracy Luu, WSU Senior spring 2012.
21. Wendi Alex, WSU Sophomore, spring 2012.
22. Jared Karstetter, WSU, 2012, (**dental school, U. WA**)
23. Chelsea Fischer, WSU senior, (**medical school, U. WA**)
24. Sarah Baum, WSU senior, (**graduate school, U. Connecticut**)
25. Leia Vilardi, WSU senior, fall 2012.
26. Cristal Reyna, WSU senior, fall 2012.
27. Sarah Baum, WSU senior, fall 2012.
28. David Finkel, WSU Sophomore, 2014.
29. Katherine Shives, WSU senior, 2014 (**graduate school, U. Colorado**)
30. Brian Wasicek, WSU senior, 2014 (**medical school**)
31. Casey Enzler, WSU senior, fall 2014 (**graduate school, U. WA**)
32. Ali Abu-Alya, WSU senior, spring 2015 (**medical school**)
33. Lindsey Stuart, WSU senior, spring 2015 (**medical school**)
34. Hanna Webb, WSU senior, 2015 (**graduate school, NC State U.**)
35. Sara Privatt, WSU senior, spring 2016 (**graduate school, U. Nebraska**)
36. Christine Nishimoto, 2017 (**veterinary school, WSU**)
37. Zach Taylor, WSU senior 2017 (**medical school, U. WA**)
38. McKenzie Dahl, WSU senior, 2017 (**Nursing school, Condordia U**)
39. Jill Jaeger, WSU senior, 2017 (**Medical Lab Science, Heritage College**)
40. Jaslyn Erickson, 2017 (**medical school, U. Colorado**)
41. Natasha Rutnam, WSU senior, 2018 (**Medical Lab Science, Heritage College**)
42. Evan Klein, WSU senior, 2018 (**medical school**)
43. Colton Robbins, WSU senior, 2019 (**graduate school, WSU**)
44. Yoni Rodriguez, WSU senior, 2019 (**graduate school, U. WA**)
45. Terrace Gilbreath, WSU senior, 2019 (**graduate school, U. WA**)
46. Cameron Radka, 2020 (**Osteopathic medicine, WA**)
47. Maddie Ebel, WSU senior, 2021 (**Peace Corp**)

### **VISITING SCIENTISTS**

1. Peter Mason, Ph.D., Dept. Medical Microbiol., University of Zimbabwe, 1989.
2. Linda Strong James, Ph.D., Dept. Biology, Paine University, Augusta, GA, 1990.
3. Mark Hughes, D.V.M., Dept. Reproduction, School of Veterinary Medicine, U.C. - Davis, CA, 1991.
4. Michael Ho, Dept. Biology, University of California, Davis, CA, 1991.
5. Carlos Campero, Ph.D., Agriculture Institute (INTA), Balcarce, Argentina, 1992.
6. T.-H. (Leo) Chang, Bestar Laboratories (Singapore) PTE LTD, 1998 (for several weeks on numerous occasions).
7. Michael W. Lehker, Ph.D., Assistant Professor of Research, June 1, 2000-2002.

8. Imelda Lopez, Ph.D., Departamento de Biología Molecular y Biotecnología, Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, June 2007.
9. Ana Lilia Torres-Machorro, Departamento de Biología Molecular y Biotecnología, Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, July 2008.
10. Sarah Veloso, Laboratorio de Biología Molecular, Instituto de Ciencias Biologicas, Universidade Federal de Goias, Brazil, 2009.

### **INVITED SEMINARS**

1. University of Kansas, Department of Microbiology, Lawrence, KS, October 1981.
2. U. New Mexico School of Medicine, Department of Microbiology, Albuquerque, NM, June, 1982.
3. Trinity University, San Antonio, November 1982.

### **1983**

4. University of New Mexico, Department of Biology, February.
5. New Mexico State University, Department of Biology, Las Cruces, February.
6. University of Texas at El Paso, Department of Biological Sciences, February.
7. University of Texas at San Antonio, Department of Biological Sciences, April.
8. University of Texas Health Science Center, Department of Biochemistry, September.

### **1984**

9. University of Mississippi, Department of Biology, University, February.
10. Corpus Christi State University, Department of Biology, February.
11. University of Kansas, Department of Microbiology, Lawrence, February.
12. University of S. Colorado, Department of Biology, Pueblo, March.
13. Texas A&I, Department of Biology, Kingsville, April.
14. Merck Pharmaceuticals, Rahway, NJ, June.
15. London School of Tropical Medicine and Parasitology, October.
16. Burroughs Wellcome, Beckenham, England, October.
17. Hadassah Medical School, Department of Microbiology, Jerusalem, Israel, October.
18. UC Medical School at San Francisco, Department of Microbiology, November.

### **1985**

19. Pan American University, Department of Biology, Edinburg, TX, February.
20. La Jolla Cancer Research Foundation, La Jolla, CA, April.
21. Cistron Technologies, Inc., May.
22. Faculty University of Prague, Department of Biology, Czechoslovakia, July.
23. UT Medical Branch, Department of Microbiology, Galveston, TX, September.
24. Dupont, Inc., Wilmington, DE, October.
25. University of Kansas, Department of Microbiology, Lawrence, KS, October.

### **1986**

26. University of New Mexico School of Medicine, Department of Microbiology, January.
27. University of Texas Health Science Center-San Antonio, Department of Pharmacology, April.
28. Center for Investigation and Advanced Studies, Mexico City, Mexico, May.
29. Institute of Parasitology, Medical Faculty Comenius University, Bratislava, Czechoslovakia, June.
30. Cistron Technologies, Inc., Pine Brook, NJ, July.
31. UC.-San Francisco, Department of Pharmaceutical Chemistry, School of Pharmacy, October.

### **1987**

32. Meharry Medical College, of Medicine, Nashville, TN, February.
33. St. Mary's University, Department of Biology, San Antonio, TX, March.
34. Southwestern University, Department of Biology, Georgetown, TX.
35. Faculty University, Department of Parasitology, Prague, Czechoslovakia, May.
36. Comenius University, Department of Immunology, Bratislava, Czechoslovakia, May.

37. Laboratory of Parasitic Diseases, NIAID, NIH, June.
38. Department of Veterinary Science, Montana State University, Bozeman, MT, July.
39. University of California at San Francisco, Bay Area Parasitology Club, October.
40. Stanford University School of Medicine, Department of Medical Microbiology, November.

### **1988**

41. University of New Mexico (UNM), Department of Biology, Albuquerque, NM, April.
42. Highlands University, Department of Biology, Las Vegas, NM, April.
43. Chapman Jr. High and High Schools, Santa Fe, NM, April.
44. UNM School of Medicine, Department of Microbiology, Albuquerque, November.
45. UT-El Paso, Department of Biology, November.
46. New Mexico State University, Department of Biology, Las Cruces, November.

### **1989**

47. Texas Christian University, Department of Biology, Fort Worth, March.
48. University of Texas at San Antonio, Division of Life Sciences, March.
49. InterAmerican University, Rio Piedras, Puerto Rico, April.
50. U. Puerto Rico, Cayey, April.
51. U. Puerto Rico, Rio Piedras, April.
52. Boehringer-Mannheim Biologics Research Division, Indianapolis, IN, April/July.
53. BioKit Corp., Inc., Barcelona, Spain, September.
54. Saint Mary's University, Department of Biology, San Antonio, TX, September.
55. Selma University, Department of Biology, Selma, AL, October.
56. Alabama State University, Department of Biology, Montgomery, AL, October.
57. Incarnate Word College, Department of Biology, San Antonio, TX, November.
58. CSU-Dominguez Hills, Department of Biology, Los Angeles, Ca, November.
59. CSU-Los Angeles, Department of Biology, LA, Ca, November.
60. CSU-East Los Angeles, Department of Biology, Los Angeles, Ca, November.
61. University of California, Department of Biology, Riverside, CA., December.

### **1990**

62. Texas Lutheran University, Department of Biology, Seguin, TX., January.
63. UT-Pan American, Department of Biology, Edinburg, TX., January.
64. Palo Alto Community College, Department of Biology, San Antonio, February.
65. Texas Women's University, Department of Biology, Denton, TX., March.
66. Reed College, Department of Biology, Portland, OR., April.
67. U. California, Department of Biology, Riverside, CA, May.
68. BioKit Corp., Inc., Barcelona, Spain, July.
69. U. California, Department of Biology, Davis, CA, October.
70. Paine College, Department of Biology, Augusta, GA, November.
71. California State University, Department of Biology, Northridge, November.

### **1991**

72. Centro de Investigacion (CINVESTAN), Mexico City, January.
73. UT- Pan American, Department of Biology, Edinburg, TX, January.
74. Incarnate Word College, Department of Biology, San Antonio, TX, March.
75. UT-El Paso, Department of Biology, TX, March.
76. National Institute of Agriculture and Livestock Production, Balcarce, Argentina, September.
77. Argentina Society Microbiology Biosciences Laboratories, Buenos Aires, Argentina, September.
78. Institute of Tropical Medicine, Beijing University, Beijing, PRC, October.
79. Highland's University, Department of Biology, Las Vegas, New Mexico, October.
80. Hainan Medical College, Department of Microbiology, Haikou, Hainan, PRC, November.
81. Hainan Medical College, Department of Parasitology, Haikou, Hainan, PRC, November.

### **1992**

82. East Los Angeles College, Department of Biology, Los Angeles, CA, February.
83. Grambling State University, Department of Biology, Grambling, LA, February.
84. UT-Pan American, Department of Biology and Pre Med-Bio Med Club, Edinburg, TX, April.
85. Louisiana State University Medical Center, Department of Microbiology, Shreveport, LA, May.
86. Grambling State University, Department of Biology, Grambling, LA, September.
87. Palo Alto College, Department of Biology, November.
88. Texas A & I University, Department of Biology, Kingsville, TX, November.
89. UT-Pan American, Department of Biology and Pre Med Club, Edinburg, TX, November.

### **1993**

90. NM Highlands University, Department of Biological Sciences, Las Vegas, NM, January.
91. Saint Mary's University, Department of Biological Sciences, San Antonio, January.
92. UT-Medical Branch, Department of Microbiology, Galveston, TX, February.
93. Navajo Community College, Life Sciences Division, Shiprock, New Mexico, February.
94. Navajo Community College, Biology Department, Salee, Arizona, February.
95. Navajo Preparatory High School, Farmington, New Mexico, February.
96. Shiprock High School, Shiprock, New Mexico, February.
97. Navajo Dormitory High School, Shiprock, New Mexico, February.
98. UT-Pan American, Department of Biology and Pre-Med Club, Edinburg, TX, April.
99. Saint Mary's University, Department of Biological Sciences, MBRS Program Seminar, October.
100. Highlands U., Depart. Life Sciences and World at Work Program, Las Vegas, NM, November.
101. UNM School of Medicine, Department of Microbiology, Albuquerque, NM, November.
102. Highlands University, Department of Life Sciences, Las Vegas, NM, November.

### **1994**

103. UTHSCSA, Dental School, Department of Periodontics. Dentist-Scientist Program, Ethics Seminar Series, January.
104. Georgetown U. School of Medicine, Department of Microbiology, Washington, D.C., March.
105. UTSA, Department of Biological Sciences and MBRS-MARC Programs, April.
106. San Jose State University, Society of Latino Engineers and Scientists and MBRS/MARC Students, April.
107. University of Sassari, Institute of Microbiology, Sassari, Sardinia, Italy, October.
108. CUNY, Hunter College, Institute of Biomolecular Structure and Function, November.

### **1995**

109. Texas A&M University-Kingsville, Department of Biology, Student Tri-β, February.
110. Ottawa General Hospital, Division of Infectious Diseases, Ottawa, Canada, February.
111. Ottawa General Hospital, Department of Microbiology, Ottawa, Canada, February.
112. Texas A&M University, Department of Biology, College Station, TX, February.
113. Alabama State University, Department of Biology, Montgomery, AL, September.
114. University of Maryland - Baltimore County, Department of Biology, Baltimore, MD, October.
115. UT-PanAmerican, Department of Biological Sciences, Edinburg, TX, October.
116. Saint Mary's University, Department of Biology, MARC/MBRS Programs, October.

### **1996**

117. University of Kansas Medical Center, Department of Microbiology, Kansas City, KS, January.
118. Tel Aviv U., Sackler Faculty of Medicine, Department of Human Microbiology, Israel, February.
119. Hadassah Medical School, Department of Microbiology, Jerusalem, Israel, March.
120. Pomona College, Department of Biology, Pomona, CA, March.
121. Loyola Marymount University, Sigma xi and Department of Biology, Los Angeles, CA, March.
122. University of Texas at El Paso, Department of Biological Sciences, El Paso, TX, April.
123. Kansas University Medical Center, Department of Microbiology, Kansas City, KS, May.
124. Centro de Investigaciones Nacional (CINVESTAV-IPN), Departments of Pathology and Molecular Biology, Mexico City, August.

125. Southwest Texas State University, Seminar-Department of Biological Sciences and Address-Society for Mexican American Engineers and Scientists (MAES), San Marcos, TX, September.
126. TX A&M-Kingsville, Department Biology and Pre-Med Club, Kingsville, TX, October.

### **1997**

127. Iowa State University, Department of Biology, Des Moines, IA, March.
128. St. Judes Children's Research Hospital, Office of Academic Programs, Memphis, TN, April.
129. Cornell University, Mathematical Theoretical Biology Institute Program, Ithaca, NY, July.
130. Hunter College Gene Research Center, CUNY, Department of Biological Sciences, December.

### **1998**

131. Depart. Virol. Immunol., Southwest Fndn. Biomedical Research, San Antonio, TX, February.
132. Programa Interinstitucional de Biomedicina Molecular (PIBIOM), Centro del Instituto Politecnico Nacional (IPN), CINVESTAV-IPN, Mexico City, March.
133. Department of Biological Sciences, Incarnate Word University, San Antonio, TX, April.
134. Summer Mathematics and Biology Program, U. Puerto Rico-Mayaguez, Puerto Rico, July.
135. Mathematical and Theoretical Biology Institute, Cornell University, Ithaca, NY, July.
136. Department of Genetics and Molecular Biology, Centro del Instituto Politecnico Nacional (IPN), CINVESTAV-IPN, Mexico City, October 6. (declined due to conflict)
137. Unidad de Enfermedades Infecciosas y Parasitarias del Centro Medico Nacional Siglo XXI, Mexico City, October 7. (declined due to conflict)
138. American Chemical Society Student Affiliate Chapter, St. Edward's University, Austin, TX, October 23.
139. Molecular Biomedicine Program, The National Polytechnical Institute (IPN), CINVESTAV-IPN, and CICATA-IPN, Mexico City, October 28.
140. Biomedical Research Programs, The City College of CUNY, November 4, 1998.
141. CAMP Program, UC-Irvine, Irvine, CA, November 11.
142. Department of Microbiology, UT-Southwestern Medical School, Dallas, TX, December.

### **1999**

143. Depart. Biol. Biomed/Biotech Res. Inst., North Carolina Central University, February 11.
144. Department of Biological Sciences and Howard Hughes Medical Institute Research Program Seminar Series, St. Mary's University, February 19.
145. South Texas AIDS Center for Children and Their Families, Division of Community Pediatrics, Department of Medicine, UTHSCSA, May 19.
146. Department of Biology, New Mexico Highlands University, Las Vegas, NM, October 25.

### **2000**

147. Division of Biological Sciences, MBRS/MARC Program Seminar Series, UTSA, January 28.
148. Department of Pediatrics Research Seminars, UTHSCSA, March 09.
149. Department of Biology, Santa Ursula University, Rio de Janeiro, Brazil, April 4.
150. UFRJ-Instituto de Biofisica Carlos Chagas Filho, Rio de Janeiro, Brazil, April 5.
151. Universidad Autonoma de Ciudad Juarez, Instituto Politecnico Nacional, "La enfermedad sexual numero uno en el mundo y sus consecuencias en las mujeres," Curso en "La Frontera: Genetica Molecular de la Enfermedad." Ciudad Juarez, Mexico, October 2.
152. Department of Molecular Virology and Microbiology, Baylor College of Medicine, Molecular Virology Seminar Series, October 31.
153. Department of Biology, University of Puerto Rico at Cayey, November 14.

### **2001**

154. Division of Life Sciences, UT-San Antonio, March 30.
155. The Forsythe Institute, Boston, MA, April 19.
156. Infectious Diseases and Obstetrics and Gynecology Grand Rounds, Michigan State University School of Medicine, Grand Rapids, MI, July 19-20.

### **2002**

157. U. Illinois-Urbana-Champaign, Molecular Biology Training Grant Program, March 5.
158. New Mexico State University, Depart. Biol. & RISE/SCORE Programs, Las Cruces, April 4.
159. Highlands University, *Distinguished Speaker Series*, Las Vegas, New Mexico, April 8.

### **2003**

160. UT Medical Branch-Galveston, Undergraduate Research Symposium, February 20.
161. UC-Irvine, Department of Biology and Minority Science Program, May 1.
162. UC-Davis, School of Veterinary Medicine, June 20.
163. CSU-Dominguez Hills, Department of Biology, November 7.
164. University of Arizona, Minority Biomedical Research Colloquium, November 17.

### **2004**

165. CSU-Dominguez Hills, Department of Biology, NIH-MBRS/SCORE Programs, September 23.

### **2005**

166. UCLA, Depart. Biol., NIH-Minority Access to Research Careers Program, LA, February 9.
167. Department of Pathology, Centro de Investigaciones Avancadas-Instituto Politechno Nacional (CINVESTAV-IPN), Mexico City, September 22.
168. CSU-Northridge, Department of Biology, Northridge, CA, October 21.

### **2006**

169. Universidad de Guanajuato, Instituto de Investigacion en Biologia Experimental Facultad de Quimica, Mexico, January 15-17.
170. North Carolina Central University, Durham, NC, July 13.
171. Mexican Academy of Science, CINVESTAV-IPN, Mexico City, September 11.

### **2007**

172. Grambling University, RISE/MARC Program Symposium, Grambling, LA., February 12.
173. Universidad Autonoma de Mexico, Department of Biology, Mexico City, July 7.
174. Centro de Investigaciones Avancadas-Instituto Politechno Nacional (CINVESTAV-IPN), Department of Pathology, Mexico City, July 20.

### **2008**

175. School of Molecular Biosciences, Washington State University, March 31.
176. Department of Biological Sciences, U. Idaho, September 11.
177. Department of Biology, California State University-Dominguez Hills, September 25.
178. Scientific Excellence Through Diversity Seminar Series, UCLA, October 29.
179. UCLA Academic Advancement Program's Speaker Series, "Science—Love and Passion *and* Alone and Lonely; Our Nation—You as Solution or Problem," Division of Undergraduate Education, Office of the Associate Vice Provost for Student Diversity, October 30.

### **2009**

180. Ctr Biomedical Research, HIV and AIDS Program, Population Council, New York, February 27.
181. Salish Kootenai College, Department of Biology, MBRS/MARC Program, Pablo, MT, May 29.
182. U. Guanajuato, Instit. Invest. Biologia Experimental Facultad de Quimica, Mexico, November.
183. Transdisciplinary Institutional Training Program in BioTechnology, WSU-Pullman, November 3.
184. Depart. Chem. Engin., College of Architecture and Engineering, WSU-Pullman, December 7.

### **2010**

185. CSU-Los Angeles, MORES Division RISE/SCORE/MARC Programs, January 22.
186. CSU-Northridge, RISE/SCORE/MARC Programs, February 19.
187. Eastern New Mexico University at Portalis, Department of Biology, October 5.
188. CSU-Dominguez Hills (DH), Seminar-Biomedical Research Biology, Minority Student Science Program, October 21, 2010.

### **2012**

189. CSU-DH, Seminar-Biomed. Res. Biol., Minority Student Science Program, February 2, 2012.
190. U. Pennsylvania, Ernest E. Just Biomedical Society, March 1.
191. WSU School of Engineering and Architecture, Department of Bioengineering, October 5.

### **2013**



192. Departamento de Parasitologia, Facultad de Farmacia, Universidad Complutense de Madrid, Madrid, Spain, June 10.

**2014**

193. Departamento de Parasitologia, Facultad de Farmacia, Universidad Complutense de Madrid, Madrid, Spain, May 21.

**2017**

194. Department of Ecological Microbiology (*Trichomonas vaginalis* Amitochondriate Anaerobe), University of Bayreuth, Germany, July 4.

195. Facultad de Farmacia, Universidad Complutense, Madrid, Spain, December 1.

**2018**

196. Department of Ecological Microbiology (*Trichomonas vaginalis* Serodiagnostic Targets), University of Bayreuth, Germany, September 26.

197. Research Experiences for Undergraduates, College of Engineering, Washington State University, Pullman, WA, July.

**2021**

198. Department of Biology, University of Idaho, Moscow, ID, October.

**CONFERENCES**

**1980**

1. Session Speaker on Microbial Pathogenesis, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), Albuquerque, New Mexico.

**1982**

2. The Fifth International Congress of Parasitology, Toronto, Canada.

**1983**

3. UCLA Symposium. "Molecular Biology of Host-Parasite Interactions," Park City, Utah.

4. Third John Jacob Abel Symposium. "Molecular Parasitology," Baltimore, Maryland.

5. Participant, Gordon Research Conference, "Parasitism: Immunological and molecular aspects of," NH.

**1984**

5. UCLA Symposium. "Extracellular Matrices: Structure-Function," Keystone, CO.

6. (Invited) The Fourth European Multicolloquium of Parasitology "Host-Parasite Interactions," Izmir, Turkey.

7. (Invited) Molecular Aspects of Spirochetal Research, Rocky Mountain Labs-NIH, Hamilton, MT.

**1985**

8. (Invited Speaker) International Symposium on Trichomonads and Trichomoniasis Prague, Czechoslovakia.

9. Gordon Research Conference on "Parasitism: Immunological and molecular aspects of," NH.

**1986**

10. UCLA Symposium. "Molecular Strategies of Parasitic Invasion," Park City, UT.

11. (Invited) Sixth International Congress of Parasitology, Brisbane, Australia.

12. (Invited Speaker) "Microbial Surfaces: Determinants of Virulence and Host Responsiveness," NIH/NIAID, Oakland, CA.

13. (Invited Speaker) "Molecular Mechanisms of Pathogenicity," TX Branch ASM meeting, Temple.

**1988**

14. UCLA Symposium. "Vaccines," Park City, UT.

15. (Keynote Speaker) American Society of Rickettsiology annual meeting, Santa Fe, NM.

16. (Invited Speaker) NIH, International Conference on "Molecular Basis of the Interaction Between Parasites and the Complement System." Bethesda, MD.

**1989**

17. UCLA Symposium. "Parasites: Molecular Biology, Drugs, and Vaccine Design," Keystone.

18. (Invited Speaker and Chairman, Session on Trichomoniasis) International Sexually Transmitted Diseases Research Symposium (ISSTD), Copenhagen, Denmark.

19. (Invited Speaker), Symposium on "Frontiers on Molecular Parasitology," U. Georgia-Athens, November.

#### **1990**

20. (Invited Speaker) Czechoslovakia Society for Protozoology, Czechoslovakia, June.
21. (Invited Speaker) Czechoslovak Academy of Sciences Institute, Parasitology Program, Ces Budejovice, Czechoslovakia, July.
22. (Invited Speaker), "Sexually Transmitted Diseases," at the Instituto de Salud Carlos III, Centro Nacional de Microbiologia, Virologia, & Immunologia Sanitarias, Madrid, Spain, July.
23. Third International Symposium on Double-Stranded RNA Viruses, Hawaii, December.

#### **1991**

24. (Invited Speaker), Workshop on the Molecular Immunology of Sexually Transmitted Diseases, Rocky Mountain Labs-NIAID, NIH, Hamilton, MT, July.
25. Presenter, 9th International Society for Sexually Transmitted Disease Research, Banff, Alberta, Canada, October.
26. (Invited Speaker), International Meeting of the Society of Parasitology and Infectious Diseases of China, Haikou, Hainan, People's Republic of China, November.

#### **1992**

27. (Keynote Speaker), Symposium on Molecular and Cellular Biology, Society for the Advancement of Chicano and Native American Scientists (SACNAS), San Antonio, January.
28. UCLA Symposium on the Molecular and Cellular Biology of Host-Parasite Interactions. Park City, UT, January.
29. (Invited Participant), Symposium on "Molecular Biology of Parasites," Sponsored by the Mexican National Academy of Sciences, Mexico City, October.
30. Participant, SmithKline Beecham Pharmaceutical U.S. Research Symposium on "Cellular Adhesion: Molecular Definition to Therapeutic Potential," King of Prussia, PA, October.
31. (Invited Speaker), Texas Branch of the American Society for Microbiology, Session on "Host-parasite Interactions: Membranes, Signals, and Pathogenesis," San Antonio, October.

#### **1993**

32. Participant, Society for the Advancement of Chicano and Native American Scientists, Albuquerque, New Mexico, January.
33. Invited Participant, NSF National Conference on Diversity in the Scientific and Technological Workforce, Washington, D.C., October.

#### **1994**

34. Second Annual Conference '94, The Changing Faces of AIDS, Bexar County Hospital District, San Antonio, Texas, January.
35. Convener and presenter, "Molecular Pathogenesis of Sexually Transmitted Trichomonas Parasites," Session at General Meeting of the American Society for Microbiology, May.
36. Symposium organizer and Keynote Speaker, "Molecular Pathogenesis of Sexually Transmitted Trichomonas Parasites," III International Congress of Parasitology, Izmir, Turkey, October.

#### **1995**

37. Symposium Organizer and presenter, "Sexually Transmitted Diseases," Session at Society for the Advancement of Chicano and Native American Scientists, Annual Meeting, El Paso, TX.
38. Symposium Organizer, "Hispanic Legislators and Education," Session at SACNAS, Annual Meeting, El Paso, TX, January.
39. Participant, Fifth International Meeting on Double Stranded RNA Viruses, Tunisia, March.
40. Participant, 11th Meeting of the International Society for Sexually Transmitted Disease Research (ISSTD) Meeting, New Orleans, LA, August.
41. Session Organizer/Presenter, SACNAS Annual Meeting, Phoenix, AZ, October.

#### **1996**

42. Participant, Keystone Symposia, Molecular and Developmental Biology of the Extracellular Matrix, Keystone, Colorado, January.

43. Speaker, Bat-Sheva Seminar, Toward Anti-Adhesion Therapy of Microbial Diseases, ISAS International Seminars, Zichron Yaakov, Israel, February.

#### **1997**

44. Participant, The Fellowship Program in Academic Medicine for Minority Students, Tenth Annual Research Symposium, Mentor for Research by Maria A. Palafox (Third Year Medical Student, UTHSCSA), Princeton, NJ, March.
45. Participant, American Chemical Society Blue Ribbon Panel on Minority Affairs Annual Meeting, Ponte Vedra Beach, FL, March.
46. Participant, American Society for Cell Biology Minority Affairs Committee Representatives Meeting, FASEB Campus, Bethesda, MD, July 20.
47. Organizer, Annual Conference of The Society for Advancement of Chicanos and Native Americans in Science, Houston, TX, October.
48. Session Presenter, ICAAC General Meeting, Symposium on *Trichomonas vaginalis* Pathogenesis. Toronto, Canada, September/October.
49. Session Organizer and Introduction Speaker, International Congress of Sexually Transmitted Diseases and ISSTD, Session on *Trichomonas vaginalis*, Seville, Spain, October.
50. Invited Keynote Seminar, International Meeting in Molecular Biomedicine, CINVESTAV-IPN, Mexico City, (declined due to conflict in scheduling), October.

#### **1998**

52. Invited Seminar, The Graduate School and University Center (GSUC), Minority Access/Graduate Networking (MAGNET) Program One-day Conference, The City University of New York, February.
53. Invited Participant, American Chemical Society Blue Ribbon Panel on Minority Affairs, Session on K-12 Pipeline Issues and Scientific Societies, San Francisco, CA, June.
54. Invited Session Presenter, American Chemical Society Fall National Meeting, Special President's Event, "The Future of Chemistry is All of Us," Boston, MA, August 24.
55. Session Co-Organizer with Michael Gottesman, M.D. (NIH) on "Drug Resistance: From Cancer to Infectious Disease," Annual Conference of The Society for the Advancement of Chicanos and Native Americans in Science, Washington, DC, October 8-12.
56. Session on Molecular Mimicry, *Trichomonas vaginalis* and Trichomonosis, Mexican Society for Parasitology Annual Meeting (XIII Congreso Nacional de Parasitología--CONAPAR '98), Zacatecas, Mexico, October 8. (declined due to conflict)
57. Keynote Address, Mexican Society for Parasitology Annual Meeting, Zacatecas, Mexico, October 8. (declined due to conflict).
58. Presenter, International Course on Molecular Biomedicine on "Molecular Interactions Between Parasites and Their Hosts", Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada del Instituto Politécnico Nacional (CICATA-IPN), October 28-30.

#### **1999**

59. Speaker, Texas Nurse Practitioners Annual Conference, "Trichomonas and Its Relationship to HIV," San Antonio, TX, August 27.
60. Organizer and Co-chair, Session on Minority Graduate Student Presentations on Microbiology Research, The Annual Conference of The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), October 5-8, Portland, OR.
61. Speaker, "Molecular Basis for Host Parasitism by *Trichomonas vaginalis*," XXVI Annual Meeting on the Basic Research in Chagas Disease and XV Annual Meeting of the Brazilian Society of Protozoology, Caxambu, MG, Brazil, November 9.
62. Presenter and Round-Table Discussant, "Research Trends in Parasitology—*Trichomonas vaginalis*," XXVI Annual Meeting on the Basic Research in Chagas Disease and XV Annual Meeting of the Brazilian Society of Protozoology, Caxambu, MG, Brazil, November 11.

#### **2000**

63. Symposium Speaker, "La frontera: Genética Molecular de la Enfermedad," Conference on diseases on the US-Mexico Border, Ciudad Juárez, Chihuahua, Mexico, October 2.

64. Session Speaker, Seventh RCMI International Symposium, sponsored by Morehouse School of Medicine and U. Puerto Rico Medical Sciences and Rio Piedras Campuses, San Juan, Puerto Rico, November 12-15.

### **2001**

65. Speaker, "Sexually Transmitted Diseases and Trichomonosis—*the Number One Non-viral STD*," Texas Association of Nurses, San Antonio, TX, February 21.
66. Invited Speaker, "Sexually Transmitted Diseases and Trichomonosis—*the Number One Non-viral STD*," 2001 Native WEB Conference, Mayo Clinic, Rochester, NY, October 26.
67. Keynote Speaker, "*Trichomonas vaginalis*: Surface-associated Enzymes, Molecular Mimicry and Functional Diversity," Annual Biomedical Research Conference for Minority Students, Orlando, FL, November 1.
68. Speaker and Conference Organizer, "*Trichomonas vaginalis* and Other Protozoan Diseases," Satellite Meeting of the XXVIII Annual Meeting on the Basic Research in Chagas' Disease and XVII Annual Meeting of Brazilian Society of Protozoology, November 3-4, 2001, Brazil.

### **2003**

69. Symposium Speaker, "*Trichomonas vaginalis* virulence, cytoadherence, and a rapid diagnostic," International Society for Sexually Transmitted Disease Research, 2003 ISSTD Congress, Ottawa, Canada, July 27-30.
70. Moderator, Sessions on HSIs: Key Sources for Future Scientists and Engineers, U. Illinois-Urbana Champaign, September 12.

### **2004**

71. Conference Speaker, "*Trichomonas vaginalis* drug resistance and diagnosis," World Congress on Vaginitis, Costa Rica, January 12.
72. Presenter, IX European MultiColloquium of Parasitology (EMOP IX), Valencia, Spain, July 18-23.
73. Congress Speaker, "*Trichomonas vaginalis* virulence and pathogenesis," Congreso de Parasitologia, Tlaxcala, Mexico, October 14-17.
74. Plenary Session Speaker, "*Trichomonas vaginalis* Diagnostic: A Scientist Gives Back," ABCRMS-ASM, Dallas, November 11.
75. Plenary Session Speaker, "STDs, *Trichomonas vaginalis* and Cancer," ABCRMS-ASM, Dallas, November 12.
76. Keynote Address, "From ABCRMS to the National Academy," Annual Biomedical Research Conference for Minority Students (ABCRMS), American Society for Microbiology, Dallas, TX, November 13.

### **2005**

77. Conference Speaker, American Society for Biochemistry and Molecular Biology Annual Meeting, Minority Affairs Committee Sponsored Symposium, San Diego, CA, 2-5 April 2005.
78. Conference Speaker and Participant, International Conference on Anaerobic Protists, Presentation: "The Functional Interface Between *Trichomonas vaginalis* and its Host Cell," Sardinia, Italy, September 17-20.
79. Congress Speaker, El Posgrado en Ciencias Genomicas de la Universidad Autonoma de la Ciudad de Mexico, September 23.

### **2006**

80. Presenter, 16th European Congress of Clinical Microbiology and Infectious Diseases, Nice, France, April 1-4.
81. Invited Presenter, 11th International Congress of Parasitology, Glasgow, Scotland, August 6-11.

### **2008**

82. Department of Homeland Security, University Network Summit, March 18-20.
83. Area Health and Education Center Conference, Spokane, WA, April 22-24.
84. Speaker, International Congress for Anaerobic Protists IV, Taipei, Taiwan, May 12-16.
85. Speaker, Conference on Industrial Property Rights: Commercialization of Technology, "Return for Investment: Faculty Experiences and Responsibilities," Mexico City, D.F., November 18, 2008.

### **2009**

86. Speaker, American Society for Biochemistry and Molecular Biology (ASBMB), "Importance for Recruitment and Retention of Minority Faculty at Research Universities," New Orleans, LA, April 18-22, 2009.

### **2010**

87. American Biomedical Research Conference for Minority Students (ABRCMS), Charlotte, NC, November 10-13.

### **2011**

88. Speaker, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), "Tools, Techniques, and Experiences: Advice for Faculty on Mentoring Graduate Students," October 28-30, 2011.

### **2013**

89. Invited Speaker, Real Academia de Ciencias Veterinarias (National Academy of Veterinary Science), "Trichomonad Enzymes, Diseases, and Diagnostics (Enzimas Trichomoniales, Diagnostico y Patogenia), Madrid, Spain, June 10, 2013.
90. Michigan State University, Academic Graduate Education Program (AGEP), "Surviving the Politics of Academia—From Washington to the Classroom: Let's Play Hardball," September 6.

### **2017**

91. Invited Speaker, 7<sup>th</sup> International Veterinary Congress, Focus on Growth of the Veterinary Sector, Paris, France, September 04-06. (unable to attend)
92. Invited Speaker, International Conference on Sexually Transmitted Diseases, Infections and AIDS, On "Epitopes within recombinant  $\alpha$ -actinin protein is serodiagnostic target for *Trichomonas vaginalis* sexually transmitted infections," San Antonio, TX, September 21-22. (unable to attend)
93. Invited Speaker, 3<sup>rd</sup> International Congress on Microbiology, On "Epitopes within recombinant  $\alpha$ -actinin protein is serodiagnostic target for *Trichomonas vaginalis* sexually transmitted infections," Atlanta, GA, October 02-03. (unable to attend)
94. Invited Speaker, 8<sup>th</sup> World Gene Convention, On "Epitopes within recombinant  $\alpha$ -actinin protein is serodiagnostic target for *Trichomonas vaginalis* sexually transmitted infections," Macao, China, November 13-15. (unable to attend)
95. Invited Speaker, 4<sup>th</sup> World Congress and Expo on Applied Microbiology—Exploring Innovative Research in Microbiology, "A Recombinant Chimeric Protein Comprised of Immunogenic Epitopes of Metabolic Enzymes is Serodiagnostic Target for *Trichomonas vaginalis* Sexually Transmitted Infections." Madrid, Spain, November 29-December 01.

### **2018**

96. Invited Speaker, 11<sup>th</sup> World Microbiology and Immunology Congress, "Approach Toward Developing Perfect Serodiagnostic Target Using *Trichomonas vaginalis* as a Model," Amsterdam, Netherlands, June 28-29.
97. Invited Speaker, 5<sup>th</sup> World Congress on Microbial Biotech & Vaccine Design, "The Perfect Serodiagnostic Target: *Trichomonas vaginalis* STD as Model," Lisbon, Portugal, September 17-18.

### **2019**

98. Invited Speaker, Immune Epitope Database and Analysis User Workshop, Scripps Institute and National Institute of Allergy and Infectious Diseases, Rockville, MD, November 7-9.

### **PUBLICATIONS**

1. Sanchez, G., and J.F. Alderete. 1975. The effect of host adrenalectomy on the physiology of *Trypanosoma rhodesiense*. *Comp. Biochem. Physiol.* **52B**:623-626. PMID; **1186**.

2. Wilson, D.M., J.F. Alderete, P.C. Maloney, and T.H. Wilson. 1976. Proton motive force as the source of energy for adenosine 5'-triphosphate synthesis in *Escherichia coli*. J. Bacteriol. **126**:217. PMID: **4427**.
3. Alderete, J.F., and D.C. Robertson. 1977. Nutrition and enterotoxin synthesis by enterotoxigenic strains of *Escherichia coli*: Defined medium for production of heat-stable enterotoxin. Infect. Immun. **15**:781-788. PMID: **15947**.
4. Alderete, J.F., and D.C. Robertson. 1977. Repression of heat-stable enterotoxin synthesis in ENT+ *Escherichia coli*. Infect. Immun. **17**:629-633. PMID: **20404**.
5. Alderete, J.F., and D.C. Robertson. 1978. Purification and chemical characterization of the heat-stable enterotoxin produced by porcine strains of ENT+ *Escherichia coli*. Infect. Immun. **19**:1021-1030. PMID: **346481**.
6. Alderete, J.F., and D.C. Robertson. 1978. Purification and properties of ENT+ *Escherichia coli* heat-stable enterotoxin. p. 19-31. Proceedings of the 13th Joint U.S.-Japan International Conference on Cholera, Atlanta, Ga., National Inst. Allergy Infect. Dis., NIH.
7. Robertson, D.C., and J.F. Alderete. 1978. Chemistry and biology of the heat-stable *Escherichia coli* enterotoxin. Proceedings of the 43rd Nobel Symposium on cholera and related diarrheas, Stockholm, Sweden.
8. Alderete, J.F., and J.B. Baseman. 1979. Surface-associated host proteins on virulent *Treponema pallidum*. Infect. Immun. **26**:1048-1056. PMID: **93574**.
9. Alderete, J.F., and J.B. Baseman. 1980. Surface characterization of virulent *Treponema pallidum*. Infect. Immun. **30**:814-823. PMID: **7014451**.
10. Alderete, J.F., and J.B. Baseman. 1981. Analysis of serum IgG against *Treponema pallidum* protein antigens in experimentally infected rabbits. Brit. J. Vener. Dis. **57**:302-308. PMID: **7028207**.
11. Peterson, K.M., and J.F. Alderete. 1982. Host plasma proteins on the surface of pathogenic *Trichomonas vaginalis*. Infect. Immun. **37**:755-762. PMID: **6288571**.
12. Alderete, J.F. 1983. Antigenic analysis of several pathogenic strains of *Trichomonas vaginalis*. Infect. Immun. **39**:1041-1047. PMID: **6601618**.
13. Plummer, J.M., J.F. Alderete, and J.B. Baseman. 1983. Enzyme-linked immunosorbent assay for the detection of serum antibody to outer membrane proteins of *Treponema pallidum*. Brit. J. Vener. Dis. **59**:75-79. PMID: **6339000**.
14. Alderete, J.F. 1983. Identification of immunogenic and antibody-binding proteins on the membrane of pathogenic *Trichomonas vaginalis*. Infect. Immun. **40**:284-291. PMID: **6339404**.
15. Peterson, K.M., and J.F. Alderete. 1983. Acquisition of  $\alpha_1$ -antitrypsin by pathogenic *Trichomonas vaginalis*. Infect. Immun. **40**:640-646. PMID: **6601623**.
16. Peterson, K.M., J.B. Baseman, and J.F. Alderete. 1983. *Treponema pallidum* receptor binding proteins interact with fibronectin. J. Exp. Med. **157**:1958-1970. PMID: **6304227**.
17. Alderete, J.F., and E. Pearlman. 1984. Pathogenic *Trichomonas vaginalis* cytotoxicity to cell culture monolayers. Brit. J. Vener. Dis. **60**:99-105. PMID **6608395**.
18. Peterson, K.M. and J.F. Alderete. 1984. Selective acquisition of plasma proteins by *Trichomonas vaginalis* and human lipoproteins as a growth requirement by his species. Mol. Biochem. Parasitol. **12**:37-48. PMID: **6379453**.
19. Alderete, J.F. 1984. Enzyme-linked immunosorbent assay for *Trichomonas vaginalis* using whole cells and aqueous extracts as antigen. Brit. J. Vener. Dis. **60**:164-170. PMID: **6610453**.
20. Peterson, K.M., and J.F. Alderete. 1984. Iron uptake and increased intracellular enzyme activity follow lactoferrin binding by *Trichomonas vaginalis* receptors. J. Exp. Med. **160**:398-410. PMID: **6088662**.
21. Alderete, J.F. and G.E. Garza. 1984. Soluble *Trichomonas vaginalis* antigens in cell-free culture supernatant. Mol. Biochem. Parasitol. **13**:147-158. PMID: **6334804**.
22. Peterson, K.M. and J.F. Alderete. 1984. *Trichomonas vaginalis* is dependent on uptake and degradation of human low-density lipoproteins. J. Exp. Med. **160**:1261-1272. PMID: **6333482**.
23. Thomas, D.D., J.B. Baseman, and J.F. Alderete. 1985. Fibronectin mediates *Treponema pallidum* cytoadherence through recognition of fibronectin cell-binding domain. J. Exp. Med. **161**:514-525. PMID: **3166205**.

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26. Thomas, D.D., J.B. Baseman, and J.F. Alderete. 1985. Fibronectin tetrapeptide is the target for syphilis spirochete cytoadherence. *J. Exp. Med.* **164**:1715-1719. PMID: **3903025**.
27. Alderete, J.F., L. Freeman-Shade, and J.B. Baseman. 1985. Immunodiagnostic test for detection of serum antibody to *Treponema pallidum* (syphilis): fibronectin as a capture vehicle for treponemal adhesins. *J. Immunol. Methods.* **84**:365-373. PMID: **3905972**.
28. Alderete, J.F., and G.E. Garza. 1985. Specific nature of *Trichomonas vaginalis* parasitism of host cell surfaces. *Infect. Immun.* **50**:701-708. PMID: **3877690**.
29. Alderete, J.F., G.E. Garza, J. Smith, and M. Spence. 1986. *Trichomonas vaginalis*: Electrophoretic analysis reveals heterogeneity among isolates due to high molecular weight trichomonad proteins. *Exp. Parasitol.* **61**:244-251. PMID: **3485537**.
30. Alderete, J.F., L. Suprun-Brown, and L. Kasmala. 1986. Monoclonal antibody to a major surface immunogen differentiates isolates and subpopulations of *Trichomonas vaginalis*. *Infect. Immun.* **53**:697-699. PMID: **3514466**.
31. Thompson, L.K., P.M. Horowitz, K.L. Bentley, D.D. Thomas, J.F. Alderete, and R.J. Klebe. 1986. Localization of the ganglioside binding site of fibronectin. *J. Biol. Chem.* **261**:5209-5214. PMID: **395721**.
32. Thomas, D.D., J.B. Baseman, and J.F. Alderete. 1986. Enhanced levels of attachment of fibronectin-primed *Treponema pallidum* to fibronectin on extracellular matrix. *Infect. Immun.* **52**:736-741. PMID: **3519458**.
33. Alderete, J.F., L. Kasmala, E.C. Metcalfe, and G.E. Garza. 1986. Phenotypic variation and diversity among *Trichomonas vaginalis* and correlation of phenotype with contact-dependent host cell cytotoxicity. *Infect. Immun.* **53**:285-293. PMID: **2426199**.
34. Alderete, J.F., and L. Kasmala. 1986. Monoclonal antibody to a major glycoprotein immunogen mediates differential complement-independent lysis of *Trichomonas vaginalis*. *Infect. Immun.* **53**:697-699. PMID: **3488964**.
35. Peterson, K.M., J.B. Baseman, and J.F. Alderete. 1986. Isolation of *Treponema pallidum* gene encoding an immunodominant outer envelope protein P6 reactive with sera of patients at different stages of syphilis. *J. Exp. Med.* **164**:1160-1170. PMID: **3531382**.
36. Peterson, K.M., J.B. Baseman, and J.F. Alderete. 1986. Cloning structural genes for *Treponema pallidum* immunogens and characterization of recombinant treponemal surface protein, P2\* (P2 star). *Genitourin. Med.* **63**:289-296. PMID: **3315959**.
37. Alderete, J.F., P. Demes, A. Gombosova, M. Valent, A. Janoska, H. Fabusova, L. Kasmala, and E.C. Metcalfe. 1987. Phenotype and protein/epitope phenotypic variation among fresh isolates of *Trichomonas vaginalis*. *Infect. Immun.* **55**:1037-1041. PMID: **2437029**.
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39. Alderete, J.F. 1987. *Trichomonas vaginalis* NYH 286 phenotypic variation may be coordinated for a repertoire of trichomonad surface immunogens. *Infect. and Immun.* **55**:1957-1962. PMID: **3497876**.
40. Peterson, K.M., J.B. Baseman, and J.F. Alderete. 1987. Molecular cloning of *Treponema pallidum* fibronectin-binding adhesins P1 and P2. *Genitourin. Med.* **63**:355-360. PMID: **2962928**.
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44. Alderete, J.F. 1988. Alternating phenotypic expression of two classes of *Trichomonas vaginalis* surface markers. Rev. Infect. Dis. **10** (Suppl. 2):S408-S412. PMID: **3055209**.
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46. Alderete, J.F., P. Demes, A. Gombosova, M. Valent, A. Janoska, J. Stefanovic, and R. Arroyo de Ortega. 1988. Specific parasitism by *Trichomonas vaginalis* of purified vaginal epithelial cells. Infect. Immun. **56**:2558-2562. PMID: **3262088**.
47. Alderete, J.F., J.B. Baseman, and K.M. Peterson. 1988. Affinities of *Treponema pallidum* for human lactoferrin and transferrin. Genitourin. Med. **64**:359-363. PMID: **3066739**.
48. Alderete, J.F., and J.B. Baseman. 1989. Serum Lipoprotein binding by *Treponema pallidum*: A possible role for proteoglycans. Genitourin. Med. **65**:177-182. PMID: **2474485**.
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62. Lehker, M.W., and J.F. Alderete. 1992. Iron regulates growth of *Trichomonas vaginalis* and the expression of immunogenic proteins. Mol. Microbiol. **6**:123-132. PMID: **1310792**.
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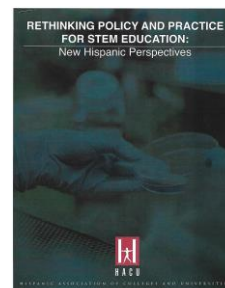
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## **Acknowledgement in Scientometric Analysis of Global Research on Trichomoniasis in Scopus Database (1922-2018)**

**Title:**Scientometric Analysis of Global Research on Trichomoniasis in Scopus Database (1922 -2018)

**VOLUME:** 21 **ISSUE:** 4

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**Abstract:**Background: Trichomoniasis is a sexually transmitted disease (STD) prevalent in different parts of the world. The present study was designed to evaluate the scientific output and collaboration of researchers worldwide on trichomoniasis.

**Methods:** In the present scientometric research, all papers conducted on *Trichomonas vaginalis* (*T. vaginalis*) published in the time period of 1922 to 2018 were extracted from the Scopus database and evaluated according to the aims of the research, using scientometric software.

**Results:** The results of this search strategy were the retrieval of 12,596 scientific papers authored by a total of 28,822 people during 97 years (1922-2018). Research in this field has encountered success and failure over the years. The first article on trichomoniasis at the Scopus database was published by Musgrave W.E. (1922) in the "Journal of the American Medical Association". Most papers on this subject (352) were published in 2013; and the years 2017 and 2016 are ranked second and third. Researchers from the US Centers for Disease Control and Prevention have the highest number of papers in this field (210). Alderete J.F. with 111 papers is the most active researcher on trichomoniasis in Scopus. Also, researchers from the US ranked the first with 3,236 papers. In Iran, by the end of 2018, 138 papers on trichomoniasis have been registered in Scopus, which accounts for only one percent of the world's science production in this field.

**Discussion:** The results following about one century indicated that the number of publications on *T. vaginalis* is growing and that there is a high level of collaboration among researchers in this field. Moreover, many countries have collaborated internationally on trichomoniasis research with the US as the leading country.

**NOTE:** As of August 31, 2021, Alderete J.F. has 150 peer-review publications.

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159. Keynote Speaker, 2018, 11<sup>th</sup> World Microbiology and Immunology Congress, "Approach Toward Developing Perfect Serodiagnostic Target Using *Trichomonas vaginalis* as a Model," Amsterdam, Netherlands, June 28-29.
160. Keynote Speaker, 2018, 5<sup>th</sup> World Congress on Microbial Biotech & Vaccine Design, "The Perfect Serodiagnostic Target: *Trichomonas vaginalis* STD as Model," Lisbon, Portugal, September 17-18.

### **TOTAL GRANT SUPPORT**

1. Institutional Research Grant; "Cytopathogenic mechanisms and surface characterization of *Trichomonas vaginalis*;" \$5,000; 1/1/81-2/28/82.
2. Cancer Institutional Research Grant; "Identification and demonstration of synthesis of a human chorionic gonadotropin-like substance by *Trichomonas vaginalis*;" \$5,025; 10/1/81-9/30/82.
3. NIH R01 AI-18768-01 to 03; "Virulence determinants of *Trichomonas vaginalis*;" PI J.F. Alderete; \$259,106; 4/1/82-3/31/85.
4. NIH R01 AI-19142-01 to 03; "Immunologic analysis of *Trichomonas vaginalis*;" PI J.F. Alderete; \$163,790; 8/1/82-7/31/85.
5. NIH; R01 AI-19566-01 to 03; "Biology of *Treponema pallidum* and syphilis;" PIs. J.F. Alderete and Joel B. Baseman; \$303,605; 12/1/83-11/30/86.
6. NIH RCDA, K04 AI-00584-01 to 05; "Virulence of *Trichomonas vaginalis* and *Treponema pallidum*;" PI J.F. Alderete; \$241,300; 4/1/84-3/31/89.
7. NIH; Sexually Transmitted Disease Program Project P01 AI-22380-01 through 03; "*Trichomonas vaginalis* heterogeneity and virulence;" PI Project 1 J.F. Alderete; \$191,016; 9/1/85-8/31/88.
8. NIH; Sexually Transmitted Disease Program Project P01 AI-22380-01 through 02; "Biology of *Treponema pallidum* and syphilis;" Co-PI J.F. Alderete; PI J. B. Baseman; \$182,014; 12/1/86-8/31/88.
9. Cistron Technology, Inc.; "Rapid diagnostic tests and vaccines for *Trichomonas vaginalis*;" PI J.F. Alderete; \$184,811; 8/1/83-7/31/87.
10. Cistron Technology, Inc.; "Rapid diagnostic tests and vaccines for *Treponema pallidum*;" Co-PI J.F. Alderete; PI Joel B. Baseman; \$187,834; 8/1/83-7/31/87.
11. NIH; R01 AI-18768-04 to 06; "Biology and virulence of *Trichomonas vaginalis*;" PI J. F. Alderete; \$250,336; 4/1/85-8/31/88.
12. NIH; Sexually Transmitted Disease Program Project P01 AI-22380-04 to 09; "Molecular biology of *Treponema pallidum* adherence;" PI J.F. Alderete; Co-I J.B. Baseman; \$563,325; 9/1/88-8/31/93.
13. NIH; Sexually Transmitted Disease Program Project P01 AI-22380-04 to 07; "Immunochemistry of *Trichomonas vaginalis* surfaces and immunogens;" PI J. F. Alderete; \$287,221; 9/1/88-8/31/91.
14. South Texas Vaccine Development Center; Advanced Technology Program Texas Coordinating Board; Subproject 1 on *Trichomonas vaginalis*; PI J. F. Alderete; \$85,000; 7/1/88-6/30/90.
15. South Texas Vaccine Development Center; Advanced Technology Program, Texas Coordinating Board; Subproject 2 on *Treponema pallidum*; CoPI J.F. Alderete; PI J. Baseman; \$85,000; 7/1/88-6/30/90.
16. Veteran's Administration; "Biology and host defense in cryptosporidiosis;" Co-PI J.F. Alderete; co-PIs: J.R. Graybill, D.M. Williams, and J.F. Alderete; \$91,700; 9/1/87-8/31/88; \$254,700; total award period 9/1/87-8/31/90.
17. Fogarty International Center; F05 TW04070; International fellowship to Dr. E. Orozco; Sponsor J.F. Alderete; \$27,600; 9/14/89-9/13/90.
18. American Society for Microbiology; "Undergraduate faculty mentorship Program;" PI J.F. Alderete; \$1,500; 5/9/90-6/8/90.
19. National Academy of Sciences; "U.S.-Eastern European Scientist Exchange Program;" PI J.F. Alderete; \$1,500; 6/1/90-8/31/90.
20. Boehringer-Mannheim Corp., Indianapolis, IN; "Analysis of monoclonals for immunodiagnosis;" PI J.F. Alderete; \$20,000; 7/1/90-6/30/91.
21. NIAID-NIH; ID No. R01 AI-18768-07 to 012; "Biology of *Trichomonas vaginalis* cytoadherence;" PI J.F. Alderete; \$788,718; 12/1/90-11/31/95.

22. NIAID-NIH; ID No. T32 AI-22380-06 to 10; "Molecular mechanisms of microbial pathogenesis;" Program Director J.F. Alderete; \$651,493; 9/1/90-8/31/95.
23. NIAID-NIH; ID No. F32 AI-07955; "Molecular analysis of *T. vaginalis*:erythrocyte interactions;" PI Don C. Dailey; Sponsor J.F. Alderete; \$78,750; 9/1/90-8/31/93.
24. NIGMS; Predoctoral Fellowship Award; PI Alix del Rosario Serrano; Sponsor, J.F. Alderete; \$54,000; 9/1/91-8/31/96.
25. NIAID-NIH: PO1 AI-31498; Sexually Transmitted Diseases Cooperative Research Centers; Project 1, "Antigenic diversity genes of *Trichomonas vaginalis*;" PI J. F. Alderete; \$593,185; 9/1/91-8/31/95.
26. American Society for Microbiology, Scientist-Educator Team Program, PI. J. F. Alderete; Program for Summers 1992 through 1994.
27. Premio Encuentro Award (and matching money by UTHSC) for Summer Internship Program for Undergraduates, PI J. F. Alderete; \$20,000; 11/1/92-10/31/97.
28. Navajo Community College Award for Summer Internship Program for Undergraduate; PI J. F. Alderete; \$2,500; 6/1/93-8/31/93.
29. Center for Health Policy Development, Inc. of San Antonio for Saturday Science Camp, Mark Twain Middle School Students, PI J. F. Alderete; \$225; 2/15/94.
30. NIAID-NIH: T32 AI-22380-11 to 15; "Molecular mechanisms of microbial pathogenesis," Program Director J. F. Alderete; \$746,361; 9/1/95-8/31/00.
31. Mexican American Physician's Association Undergraduate Summer Internship Program; PI J. F. Alderete; \$2,500; 1995.
32. NIAID-NIH, AIDS Office Supplement Award; "Relationship between infection with virus-harboring *Trichomonas vaginalis* and Ethnicity;" PI J. F. Alderete; \$50,000; 10/1/95-9/31/96.
33. Society of Mexican American Engineers and Scientists Community Outreach Contribution for Saturday Morning Science Camp; \$100.00; 2/1/96.
34. Fellowship Program in Academic Medicine; PI Maria A. Palafox, 3rd yr medical student; Sponsor- J.F. Alderete; \$6,000; Summer 1996.
35. NIAID-NIH; RO1 AI-39803-1 year interim funding; "*Trichomonas vaginalis* Phenotypic Variation and P270;" PI J. F. Alderete; \$206,726; 5/1/96-04/31/97.
36. NIGMS-NIH; "Initiative for Minority Student Development;" Program Director Damon Herbert; Co-Directors and Preceptors, C. J. Gauntt and J.F. Alderete.; \$1,348,129; 9/1/96-8/31/01
37. Society for Advancement of Chicanos and Native Americans in Science (SACNAS); Project activities related to education of underrepresented minorities; PI J.F. Alderete; \$4,000; Yr. 1997.
38. Lawrence Livermore Laboratories; "Support of SACNAS 1997 Conference and Student Education;" \$30,000, Yr. 1997.
39. Albert Einstein University; "Support of 1997 SACNAS Conference Activities;" President of SACNAS and Director of Grant J.F. Alderete, \$1,000.
40. U. Colorado Health Science Center; "Support of 1997 SACNAS Conference Activities;" President of SACNAS and Director of Grant J.F. Alderete, \$1,000.
41. American Chemical Society, "Support of 1997 SACNAS Conference Activities;" President of SACNAS and Director of Grant J.F. Alderete, \$3,000.
42. NIAID-NIH; RO1 AI-18768 interim funding; "*Trichomonas vaginalis* Cytoadherence and Adhesins;" PI J.F. Alderete; \$162,248; 04/01/97-03/31/98; Yr. 12, \$235,260 (total yr).
43. NIAAA/NIH; "Institute Support of 1998 SACNAS Conference Session on Alcoholism Research;" President of SACNAS and Director of Grant J.F. Alderete; \$20,000.
44. U. Texas Health Science Center at San Antonio, "Support of 1997 SACNAS Conference Activities;" President of SACNAS and Director of Grant J.F. Alderete, \$3,000.
45. NIH-AAMC, "Support for Research Poster Session," President of SACNAS and Director of Grant J.F. Alderete, \$2,000, 1997.
46. NIH/Office of Intramural Research; "Support for 1997 SACNAS Board Retreat to NIH;" President of SACNAS, J.F. Alderete.
47. NASA-Johnson Space Center-Houston, "Support for 1997 SACNAS K-12 Conference Activities;" President of SACNAS, J.F. Alderete, \$60,000.
48. U. Texas Medical Branch at Galveston, "Support of 1997 SACNAS Conference Activities;" President of SACNAS and Director of Grant J.F. Alderete, \$1,500.

49. Lawrence Livermore Laboratories; "Support of SACNAS 1998 Conference and Student Education;" \$30,000, Yr. 1998.
50. NIGMS/NIH; "Institute Supplement Support for 1997 SACNAS Conference Activities;" Program Director J.F. Alderete; \$50,000.
52. NIAID-NIH; T32 AI-07522-01 to 05; "Molecular Mechanisms of Viral Pathogenesis," Training Grant Program Director J.F. Alderete; \$301,738; 10/1/97-9/31/02.
53. NIGMS/NIH; T36 GM08285-07 to 11; "SACNAS: Initiatives for Equity in Science," Yr. 1 direct \$402,840 (direct costs); 5 yr total direct, \$2,034,459, 12/1/97-11/30/02.
54. NIH-AAMC, "Support for Research Poster Session," President of SACNAS and Director of Grant J.F. Alderete, \$2,000, 1998.
55. NIAID-NIH; RO1 AI-39803; "*Trichomonas vaginalis* Phenotypic Variation and P270:" PI J.F. Alderete; \$147,604; 05/01/98-04/30/99; \$207,726 (total).
56. NSF, "Support for SACNAS Board Visit to NSF," Travel and Accommodations Costs, \$11,000, June 1998.
57. NSF, "Support of SACNAS 1998 Conference and Student Presenters;" \$121,000, Yr. 1998.
58. Society for Advancement of Chicanos and Native Americans in Science (SACNAS); Project activities related to education of underrepresented minorities; PI J.F. Alderete; \$4,000; Yr. 1998.
59. NASA-Johnson Space Center-Houston, "Support for 1998 SACNAS K-12 Conference Activities;" President of SACNAS, J.F. Alderete, \$61,000.
60. NSF, "Support for SACNAS Board Visit to NSF," Travel and Accommodations Costs, \$11,000, June 1998.
61. NSF, "Support of SACNAS 1998 Conference and Student Presenters;" \$109,000, Yr. 1998.
62. US Department of Commerce, National Institute of Standards and Technology, "Support for 1998 SACNAS K-12 Conference Activities;"\$5,000.
63. National Cancer Institute/NIH, "Support of SACNAS 1998 Conference and Student Education;" \$15,000, Yr. 1998.
64. NIEHS/NIH, "Support of SACNAS 1998 Conference and Student Education;" \$25,000, Yr. 1998.
65. NIAID-NIH; RO1 AI 43940-01 ZRG5, "Identity of *Trichomonas vaginalis* Cytoadhesins," PI J.F. Alderete; \$164,435, 07/01/98-06/30/99; \$728,774 (total direct), 07/01/98-06/30/03.
66. NIAID-NIH; U19 AI45429, "P270 and Phenotypic Variation in *Trichomonas vaginalis* Proteins," Director, J. B. Basemen, Project 1 PI J.F. Alderete, \$148,064, 09/01/00-08/31/01 (Yr. 2 direct); \$631,101 (4 Yr. total direct), 09/01/99-08/31/03.
67. Texas Higher Education Coordinating Board, Technical Development Transfer Grant, "Fetal Wastage *Trichomonas foetus* Diagnostic," PI. J.F. Alderete; \$100,000 (direct Yr. 1); \$200,000 (total direct), co-funding from Xenotope Diagnostics, Inc., 01/01/02-12/31/04.
68. Xenotope Diagnostics, Inc., Unrestricted grant in microbiology, \$10,000, April 2002.
69. NIAID-NIH; Conference Grant for International Meeting on "Polyamine Metabolism as a Drug Target in Protozoa," Co-PI with Drs. Margaret Phillips (UT-Southwestern Medical School) and James Chambers (UTSA), \$5,000 direct costs (NIH award to Southwestern), May 18-22, 2002.
70. San Antonio Area Foundation. "Nasal DNA Vaccine Coexpressing VIR and IMDR Epitopes of *Trichomonas vaginalis*." \$23,200 (total direct), 06/01/02-05/31/03.
71. Xenotope Diagnostics, Inc., Unrestricted grant in microbiology, \$5,000, December 2002.
72. Institutional Research Grant, "*Trichomonas vaginalis*: a Microbial Urogenital Carcinogen," PI: J.F. Alderete, \$23,500 (total direct), 07/31/03-06/30/04.
73. NIAID-NIH; R01AI43940-05, "*Trichomonas vaginalis*: Genetic Analysis of Adherence," PI J.F. Alderete; \$167,577 (total direct), 09/01/30-08/31/04.
74. Xenotope Diagnostics, Inc., 06/01/04-08/09/04, Summer Research Internships for Two Graduating Southwest High School Students, Gift of \$4,000.
75. NIAID/NIH STD TM CRC; "Mucosal Oral Antibody to Diagnose *Trichomonas vaginalis*," Project 2, PI J.F. Alderete, Program Director Joel B. Baseman, \$765,000 (direct costs); 08/01/04-06/30/09.

76. NIAID/NIH; AI43940; "*Trichomonas vaginalis*: Molecular Analysis of Adherence," PI J.F. Alderete; \$575,000 (total direct), \$200,000 (yr 1 direct), \$815,948 (total); 08/25/05-07/31/09.
77. San Antonio Area Foundation, "Expression of a Vaccine Candidate of *Trichomonas vaginalis*," \$28,000, 06/01/07-05/31/08.
78. Trichomonas Antibody Screening Center, "Seropositivity and Prostate Cancer Prevention Trial," Johns Hopkins School of Medicine, \$59,744.37, 06.01.07-08/31/07.
79. Trichomonas Antibody Screening Center, "*Trichomonas vaginalis* and Prostate Cancer Incidence: Physician;s Health Study," Harvard School of Medicine, \$24,322, 06/01/08-08/31/08.
80. American Society for Microbiology Undergraduate Research Fellowship (MURF) Program Award for Awndre Gamache, WSU Undergraduate Student, \$3,500, Summer 2009.
81. NIAID/NIH; T32 AI07025; "Immunology/Infectious Diseases Training Program," Program Director Guy Palmer, Role: Trainer, 07/01/09-03/31/14.
82. NIGMS/NIH; T32 GM08336-21; "Biotechnology Training Program," Program Director Ray Reeves, Role: Trainer; Total Direct Costs, \$1,970,940; Yr. 1 Direct Costs, \$414,569; 07/01/09-06/30/14.
83. Center for Integrated Biotechnology, Director J.F. Alderete, \$335,000 (total); 07/01/08-06/30/09.
84. WSU Research Foundation; "Characterization of Monoclonal Antibodies to *Trichomonas vaginalis* Proteins," 12/01/10-11/31/11, PI JF Alderete, Total \$33,000 (direct).
85. Subcontract—NIMHD/NIH; R01, (Signorello, Lisa B., PD/PI), Southern Community Cohort Study, Vanderbilt University, "*Trichomonas vaginalis* and Prostate Cancer Risk in African American Men," PI Lisa B. Signorello, Subcontract Total to Alderete, Yr. 1 direct \$63,755 (total \$95,314), Yr 2 direct \$48,112; Yr 3 direct \$46,044; Years 1-5 direct \$327,038 (total \$488,922), 09/01/11-06/30/16.
86. Subcontract—NCI/NIH; R03 CA143949, "Trichomonosis and Prostate Cancer Risk in the PLCO Cancer Screening Trial," PI Siobhan Sutcliffe; Subcontract Total to Alderete, Yr 1 direct \$60,749 (total \$122,077), 01/21/2011-12/31/2012.
87. Subcontract—NCI/NIH; R03 CA141608, "Prostate cancer biorepository: development and epidemiologic application," PI Siobhan Sutcliffe (Washington University—St. Louis); 07/01/2010-06/30/2012. Total \$80,514; Consortium Agreement Subcontract PI JF Alderete, Total Yr. 1 \$8,970; Yr. 2 \$37,076.

## PRESENT RESEARCH INTERESTS

Trichomonosis is the number one, non-viral sexually transmitted infection worldwide. Infection with the causal agent, *Trichomonas vaginalis*, has major consequences for the health of women, including predisposition to HIV infection, association with cervical cancer and complications of pregnancy (premature membrane rupture, preterm delivery, and low birth weight). In men, infection is associated with urethritis and prostatitis. In the past, our long-term goal was to understand the mechanisms of disease pathogenesis. We examined at the molecular level the property of adherence of *T. vaginalis* to vaginal epithelial cells as one of the first stages preparatory to host parasitism. The *objective* of that research was to identify the molecules and understand the mechanism(s) by which *T. vaginalis* recognizes and binds to vaginal epithelial cells. Further, recognition and binding to extracellular matrix glycoproteins was studied because this is another stage of infection essential for persistence. As such, the *objective* of this area was to characterize the surface acquisition of FN by *T. vaginalis* and to identify the multigene family of FN-binding proteins. The *rationale* for undertaking all of these studies was that such an understanding would provide the fundamental knowledge base necessary for development of a strategy for interference of infection, and this might be by preventing the receptor-binding function of the molecules mediating adherence and basement membrane binding or, alternatively, through invention of antigen-detection and/or serum antibody diagnostics. Further, we have studied the environmental signals (iron and calcium) involved in regulation of expression of virulence genes and of adaptive response phenotypic variation immunogens, adhesins, and FN-binding ligands is an important component of the research program. Other factors involved in regulation of expression of parasite properties includes the family of segmented dsRNA viruses and small-sized dsRNA satellites. We then undertook a genetic approach to characterize more fully the role of individual genes and proteins in trichomonal virulence. To this end, we developed plasmid constructs and optimized the experimental



conditions for efficient, stable transfection of trichomonads in order to perform antisense silencing of expression of virulence genes.

More recently and significantly, we established numerous collaborations where we have recognized the relationship between seropositivity to a highly immunogenic *T. vaginalis* protein ( $\alpha$ -actinin) and lethal prostate cancer. This new discovery has resulted in renewed interest of the role of an etiologic agent in prostate carcinogenesis—a new area of investigation by our laboratory. Finally, we identified and characterized the epitopes of the  $\alpha$ -actinin, fructose-1,6-bisphosphate aldolase,  $\alpha$ -enolase, and GAPDH proteins as serodiagnostic targets. We have created a recombinant protein involving the 13 epitopes of  $\alpha$ -actinin referred to as ACT::SOP ( $\alpha$ -actinin **String-of-Pearls**). Likewise, a recombinant protein called AEG::SOP is comprised of 2 epitopes each of aldolase (A),  $\alpha$ -enolase (E), and GAPDH (G). These recombinant proteins represent the basis of future targets for detection of serum antibodies to *T. vaginalis* (p. 43 above and references 129 and 130).

**Current project:** At the present time we are dedicated to the discovery of an approach that can be broadly applied to the development of perfect targets for both serodiagnostics and vaccines of infectious diseases. This approach combines identification of highly immunogenic proteins on the surface of microbial pathogens that have epitopes that are unique to only the infectious agent of interest. Such sero-positive epitopes are then combined to construct novel chimeric proteins that are expressed in recombinant *E. coli* and that can be demonstrated to be detected by serum IgG antibody of exposed individuals. This same chimeric protein of immunogenic epitopes will also be a vaccine candidate. I am using *T. vaginalis* as a model to show the feasibility of this approach.

#### **DISCOVERIES--for *Trichomonas vaginalis*:**

1. The phenotypic variation property for the surface versus cytoplasmic expression of a prominent immunogen, hemolysis, expression of proteinases, and other trichomonad factors. Molecular characterization of the phenotypically varying P270 gene and protein.
2. Identification of two types of clinical isolates on the basis of phenotypic variation and presence of a double-stranded RNA virus with tripartite genome.
3. Identification of four adhesins (AP65, AP51, AP33 and AP23) and *ap65*, *ap51*, *ap33*, and *ap23* involved in epithelial cell recognition and binding and demonstration of the molecular mimicry property of the adhesins.
4. Regulation by iron of adhesins, immunogens and receptors for iron-binding and iron-containing proteins.
5. In vivo differential expression of cysteine proteinases and identification of the vaginal reducing environment as the signals regulating proteinase expression.
6. Satellite dsRNAs associated with the parasite virus.
7. The vaginal secretions have sufficient reducing power for in vivo activation of the trichomonad proteases.
8. Identification of a family of trichomonad fibronectin-like proteins (FLP1 and FLP2) and corresponding genes (*flp1* and *flp2*).
9. Identification of the first RNA-binding protein (RBP1) and *rbp1* involved in regulation of gene expression in *T. vaginalis*.
10. The Xenostrip™, the first point of care antigen detection diagnostic for *Trichomonas vaginalis* for vaginal secretions and urine. The test is currently being sold by Genzyme, Inc.
11. Establishment of the first stable antisense transfection system for silencing expression of *T. vaginalis* genes.
12. Expression of heterologous proteins using a stable transfection system for *T. vaginalis* and *Tt. foetus*.
13. Demonstration of polyamine metabolism involvement in trichomonad cytotoxicity and cytoadherence.
14. Demonstration of a correlation between anti-*T. vaginalis* serum antibody in men and prostate cancer.
15. Discovery of up-regulation of gene expression in *both T. vaginalis* organisms and vaginal epithelial cells that follows immediate contact between parasite and host cells. This work demonstrated the multiple but distinct signals modulating gene expression.

16. Characterization of the *T. vaginalis* "secretome" and demonstration of AP65 adhesin as a secreted protein that signals VECs for inducing the genes encoding IL-8 and COX-2.
17. Discovery with collaborator Rossana Arroyo that polyamine depletion in *T. vaginalis* is linked to expression of the gene encoding the cytolysin CP65.
18. Identification of the amino-terminus of AP65 as the receptor-binding epitope interacting with *T. vaginalis* surfaces and VECs.
19. Discovery of the metabolic enzyme GAPDH as a surface-associated protein that is the receptor for fibronectin.
20. Discovery of the metabolic enzyme  $\alpha$ -enolase as a surface-associated protein that is the receptor for plasminogen.
21. Discovery of the relationship between male seropositivity to *Trichomonas vaginalis*  $\alpha$ -actinin and prostate cancer.
22. Discovery of the serodiagnostic targets through epitope identification and characterization of the immunogenic proteins  $\alpha$ -actinin (ACT), fructose-1,6-bisphosphate aldolase (ALD or A),  $\alpha$ -enolase (ENO or E), and GAPDH (GAP or G).
23. Synthesis of 2 recombinant String-of-Pearls proteins comprised of a) the 13 epitopes of  $\alpha$ -actinin (ACT) and b) 2 epitopes each of aldolase (A),  $\alpha$ -enolase (E), and GAPDH (G). These novel recombinant proteins are referred to as ACT::SOP and AEG::SOP. These targets for serodiagnostics are Intellectual Properties of the patent application of March 2013 and are intended for commercialization (p. 64, patent number 14).

#### **GenBank Data Base Submissions:**

##### **For Phenotypically Varying Protein P270 gene:**

1. Isolate NYH 286; immunodominant epitope sequence reactive with mAb C20A3 (333-bp), accession number M62853.
2. Isolate NYH 286; *Hind*III monomer of tandemly repeated element (333-bp), accession number M62854.
3. Isolate T068-II; 5'-end coding region, accession number AF004356.
4. Isolate T068-II; 3'-end coding region, accession number AF004355.
5. Isolate T068-II; Upstream non-coding sequence, accession number AF004357.
6. Isolate T016; complete *p270* gene, accession number AF116276.

##### **For *ap65* Adhesin genes:**

7. Isolate T016; *ap65-1* complete gene, accession number U18346.
8. Isolate T016; *ap65-2* complete gene, accession number U18347.
9. Isolate T016; *ap65-3* complete gene, accession number U35243.

##### **For *ap51* Adhesin genes:**

10. Isolate T016; *ap51-1* complete gene, accession number U87093.
11. Isolate T016; *ap51-2* complete gene, accession number U87094.
12. Isolate T016; *ap51-3* complete gene, accession number U87095.

##### **For *ap33* Adhesin genes:**

13. Isolate T016; *ap33-1* complete gene, accession number U87096.
14. Isolate T016; *ap33-2* complete gene, accession number U87097.
15. Isolate T016; *ap33-3* complete gene, accession number U87098.

##### **For RNA-binding Protein gene *rpb-1*:**

16. Isolate T016; *rpb1* complete gene, accession number AF084572.

##### **For genes/proteins of unknown function:**

17. Isolate T016; *flp1* complete gene, accession number AF153014 (includes complete coding and 5' upstream and 3' UTR sequences).
18. Isolate T016; *flp2* complete gene, accession number AF153015.
19. Isolate T016, putative TBP-associated protein mRNA surface-expressed protein, complete gene, accession number AY963297.

##### **For upstream non-coding UTRs of genes/proteins:**

20. Isolate T016; *ap51-1* (accession number U87093) upstream region, accession number AF162339.
21. Isolate T016; *ap51-2* (accession number U87094) upstream region, accession number AF162340.
22. Isolate T016; *ap51-3* (accession number U87095) upstream region, accession number AF162341.
23. Isolate T016; *ap65-2* (accession number U18357) upstream region, accession number AF162342.
24. Isolate T016; *rbp1* (accession number AF084572) upstream region, accession number AF162343.

### **DISCOVERIES cont.**

#### **for *Treponema pallidum*:**

1. The development of a strategy to study the interaction of serum proteins with the surface of live *Treponema pallidum*.
2. Identification of fibronectin as a putative receptor for three treponemal surface protein adhesins.
3. Elucidation of the tri-peptide RGD as the binding site on fibronectin by the putative spirochete adhesins.
4. Development of a fibronectin-bound antigen immuno-diagnostic test for measuring antibody in syphilis patients. (patent received)
5. The determination of iron acquisition through spirochete receptor binding of transferrin and lactoferrin.
6. The determination of host lipid accumulation through specific receptor-mediated binding of lipoproteins.

### **INVENTIONS**

Lateral Flow, Immunochromatographic, Antigen-detection Point of Care Diagnostic for *Trichomonas vaginalis*; marketed and sold by Genzyme, Inc. (Leo Chang, co-inventor).

[http://www.sekisuidiagnostics.com/prod/poc/diag\\_p-OSOM-Trichomonas-Rapid-Test.asp](http://www.sekisuidiagnostics.com/prod/poc/diag_p-OSOM-Trichomonas-Rapid-Test.asp)

Pap smear antigen-detection diagnostic for *Trichomonas vaginalis*. (JF Alderete, Inventor).

Serodiagnostic for *Trichomonas vaginalis* for both women and men based on recombinant protein comprised of epitopes of fructose-1,6-bisphosphate aldolase (A),  $\alpha$ -enolase (E), and GAPDH (G) referred to as AEG::SOE (**S**tring-**o**f-**E**pitopes).

### **PATENTS**

1. **Patent No. 4707442.** “Hybrid Cell Line Producing Monoclonal Antibody Cytolytic to *Trichomonas vaginalis*.” Inventor, J.F. Alderete, issued to Board of Regents, The University of Texas System, November 17, 1987.
2. **Patent No. 4894328.** “Immunodiagnostic Test for Syphilis and Other Treponemal Infections.” Inventors, J.F. Alderete and J.B. Baseman, issued to Board of Regents, The University of Texas System, January 16, 1990.
3. **Patent No. 5679551,** “Unique Double-stranded RNAs Associated with the *Trichomonas vaginalis* Virus.” Inventor, J.F. Alderete, issued to Board of Regents, The University of Texas System, October 21, 1997.
4. **Patent No. 5876985,** “Methods and Compositions for the Preparation of Recombinant *Trichomonas vaginalis* Proteins and Peptides.” Inventor, J.F. Alderete, issued to Board of Regents, The University of Texas System, March 2, 1999.
5. **Patent No. 5922563,** “Adhesin Genes and Proteins Involved in *Trichomonas vaginalis* Cytoadherence.” Inventor, J.F. Alderete, issued to Board of Regents, The University of Texas System, July 13, 1999.
6. **Patent No. 7439028.** “Methods and compositions to correlate infection with prostate cancer.” Inventors, J.F. Alderete and T.H. Chang, issued to Board of Regents, The University of Texas System, October 21, 2008.

7. **Patent No. 7514230. "Detection of Trichomonas."** Inventors, J.F. Alderete and T.H. Chang. issued to Board of Regents, The University of Texas System, April 27, 2006.
8. **Patent No. 7803567, "Methods and compositions for in a sample contacted with fixative."** Inventors, J.F. Alderete and T.H. Chang, issued to Board of Regents, The University of Texas System, September 28 2010.
9. **Patent No. 8124363, "Method and devise for trichomonas detection,"** Inventors, J.F. Alderete and T.H. Chang, Notice of allowance July 26,2010.
10. **Patent No. 8017103. "Methods and compositions to diagnose infection."** Inventors, J.F. Alderete and T.H. Chang, issued to The University of Texas System, September 13, 2011.
11. **Patent No. 7291477. "Methods and devise for trichomonas detection."** Inventors, J.P. Alderete and P. Castella. **Assignment 2** J.F. Alderete and T.H. Chang. issued to The University of Texas System, November 06, 2007.
12. **Patent No. 7648829. "Methods and devise for trichomonas detection."** Inventors, J.P. Alderete and P. Castella. **Assignment 2** J.F. Alderete and T.H. Chang. issued to The University of Texas System, January 19, 2010.
13. **Patent No. 7,879,559. "Methods and devise for trichomonas detection."** Inventor J.P. Alderete and P. Castella. **Assignment 2** J.F. Alderete and T.H. Chang. issued to The University of Texas System, February 01, 2011.
14. **Patent No. 10386369, "Strings of epitopes useful in diagnosing and eliciting immune responses to sexually transmitted infections."** Inventor J.F. Alderete, Issued to Washington State University January 23, 2018.
15. **Patent No. 9910042, "Strings of Epitopes Useful in Diagnosing and Eliciting Immune Responses to Sexually Transmitted Infections."** Inventor J.F. Alderete, Issued to Washington State University March 6, 2018.
16. U.S. Provisional Patent Application No. 62/589,992, "**A Recombinant Chimeric Protein Comprised of Immunogenic Epitopes of Metabolic Enzymes is Serodiagnostic Target for *Trichomonas vaginalis* Sexually Transmitted Infections,**" Inventor J.F. Alderete, filed WSU 18 May 2018.
17. **Patent No. 10677798, "Strings of Epitopes Useful in Diagnosing and Eliciting Immune Responses to Sexually Transmitted Infections."** Inventor J.F. Alderete, Issued to Washington State University November 19, 2018.
18. **Patent No. 10386369, "Strings of Epitopes Useful in Diagnosing and Eliciting Immune Responses to Sexually Transmitted Infections."** Inventor J.F. Alderete, Issued to Washington State University August 20, 2019.

#### **EXCLUSIVE LICENSE AGREEMENT**

1. Sponsored License Agreement, Board of Regents of The University of Texas System and Xenotope Disgnostics, Inc., covering monoclonal antibodies including hybridomas used to create monoclonal antibodies created by John F. Alderete, Ph.D., effective December 19, 2001.
2. Patent License Agreement, Board of Regents of The University of Texas System and Xenotope Diagnostics, Inc., covering U.S. Patent Serial No. 5,922,563 entitled, "Adhesin Genes and Proteins Involved in *Trichomonas vaginalis* Cytoadherence" developed by J.F. Alderete, Reference No. 1995-10-UTIL1, effective February 15, 2003.
3. Sponsored License Agreement, Board of Regents of Washington State University and Pearls Diagnostics, LLC, covering monoclonal antibodies and recombinant proteins (described above, p. 61, no. 23) referred to as ACT::SOE and AEG::SOE.
4. Patent License Agreement, Board of Regents of Washington State University and Pearls Diagnostics, LLC, covering U.S. Patent Serial No. 61/779,166 entitled, "Methods and Compositions for *Trichomonas* Detection and Diagnosis" developed by J.F. Alderete, Company Pearl Antigenics, LLC.

#### **FEDERAL DRUG ADMINISTRATION DIAGNOSTIC TEST APPROVAL**

1. Xenostrip™ Rapid Diagnostic for vaginal trichomonosis (*Trichomonas vaginalis*), approved 2002.

2. Xenocassette™ Rapid Diagnostic for vaginal trichomonosis, approved 02/2003.
3. Genzyme OSOM™ Trichomonas Rapid Test, approved 03/2004 currently sold by Seskui Diagnostics, Lexington, MA, USA.

**COMPANIES FORMED FOR TRANSLATION OF INTELLECTUAL PROPERTY INTO COMMERCIALIZATION PRODUCTS**

1. Xenotope Diagnostics, Inc., LLC for the OSOM Trichomonas Rapid Test.
2. Pearl Antigenics, LLC for the new generation serodiagnostic Trichomonas Point-of-Care Test.