

CURRICULUM VITAE

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CITIZENSHIP: United States of America

EDUCATION:

Ph.D.	The Rockefeller University, New York, NY, 1982 Immunology and Biochemistry
Post Graduate Fellowship year	The John Curtin School for Medical Research, 1976 Australian National University, Canberra, Australia. Thomas J. Watson Fellowship (IBM)
B.S.	California Institute of Technology, Pasadena, CA, 1975 Biological Sciences (Honors)

ADMINISTRATIVE EXPERIENCE

2013 to present	Associate Vice President for Research, University of Texas at El Paso
2012 to 2013	Interim Dean, College of Science, University of Texas at El Paso
2008 to 2012	Associate Dean for Research and Faculty Development, College of Science, University of Texas at El Paso
2008-2009	Interim Chair of Mathematical Sciences, College of Science, University of Texas at El Paso
2006 to 2008	Associate Provost for Student Success, University of Texas at El Paso
2006	Assistant Chair, Department of Biological Sciences, University of Texas at El Paso

ACADEMIC FACULTY AND RESEARCH EXPERIENCE AT UTEP

2008 to Present:	Professor, Biological Sciences, University of Texas at El Paso.
2000-2008	Associate Professor, Dept. of Biological Sciences, University of Texas

at El Paso.

**1995-2000 Assistant Professor, Dept. of Biological Sciences, University of Texas
at El Paso.**

CURRENT COMMITTEE MEMBERSHIPS AND OTHER SERVICE

UTEP Research and Sponsored Projects Council
UTEP Export control Committee
UT System Transformation In Medical Education (TIME) Initiative
Admissions Committee for Bioinformatics graduate program.
Faculty Athletic Representative, NCAA Div I and C-USA
Chair of C-USA FAR Committee
C-USA Academic Advisors Committee
NCAA Academic Cabinet
Chair, UTEP Intercollegiate Athletic Council

Other University level Committee and Faculty government service:

UTEP Online Bachelor's Accelerated Completion Program committee
UTEP Space Committee
UTEP Website Review Team
Faculty Senator for Biological Sciences (three terms of two years each)
Provost ad hoc committee on Instructional Technology
Faculty Senate Committee on Information Technology (chair, two terms)
Faculty Senate Curriculum Committee
Faculty Senate Catalog and Calendar Committee
UTEP University Compliance Committee
SACS Curriculum QEP Review committee (Chair)
Department representative for SACS review
College representative for SACS review
Chair of Faculty senate Quality Enhancement Plan development committee
QEP Publication Committee
TNE Evidence and Assessment Committee (co-Chair)

ADVISORY BOARD MEMBERSHIPS

Current:

Internal Advisory Board for Bioinformatics graduate program, University of Texas at El Paso.
MARC External Advisory Board, Pittsburgh Supercomputing Center, Pittsburgh, PA
External Advisory Board for QuBi Bioinformatics Program, Hunter College and CUNY, New York, NY
External Advisory board for new Professional Science Masters degree (PSM) for Lehman College, New York, NY.
Internal Advisory Board for Border Biomedical Research Center, University of Texas at El Paso

PROFESSIONAL SOCIETIES:

Current:

American Conference of Academic Deans
The National Association of Academic Advisors
The American Association for the Advancement of Science
The American Society of Microbiology
The Rio Grande Branch of the American Society of Microbiology [President, 2006-2009]

Previous:

The Mathematical Association of America
The American Society of Tropical Medicine and Hygiene
The Society of Parasitology
The Society of Protozoologists

Program Development:

1998 Biology (Pathobiology) Ph.D.
Development and submission of Program proposal, member of core faculty,
and primary doctoral advisor and admissions committee member.

2001 Bioinformatics MS
Development and submission of Program proposal, member of core faculty,
advisory committee, and admissions committee (continuing).

2008 Computational Science Ph.D. Program,
Adjunct faculty, Participating-Department Chair for implementation.

2009 Ecology and Evolutionary Biology Ph.D. Program
Participating Faculty

2010 Biochemistry and Molecular Biology Ph.D. Program.
Participating Faculty.

Management of Major Interdisciplinary Grants:

Carnegie Corporation Teachers for a New Era, 1.2 million per year (Director for 2 yrs.)
NIH-MARC Phase II, Undergraduate Curriculum, 1.29 million (PI)
HHMI Undergraduate Curriculum, 1.5 million (PI)

Management of Research Laboratory and Units:

Director of Infectious Disease Unit, Border Biomedical Research Center (BBRC)
Director of Cell Culture Core Facility, BBRC
Director of Molecular Biology Core Facility, BBRC
Management of Personal Research Laboratory, Staff and Students
Management of Research Grant Funding (see list of grants, below)

RESEARCH FACULTY EXPERIENCE PRIOR TO UTEP

1988-1995 **Research Faculty (ending position: Assistant Research Biochemist, Step IV), Department of Pathology, University of California at San Diego,**

Medical Center.

- 1984-1988** **Research Scientist, Malaria Department, Biomedical Research Institute, Rockville, MD.**
- 1981-1984** **NIH/Rockefeller Foundation Post-Doctoral Fellow, Malaria Section, Laboratory of Parasitic Diseases, NIAID, NIH.**
- 1978-1981** **NSF Graduate Student (thesis work), Department of Cellular Physiology and Immunology, Rockefeller University, NY.**
- 1977** **Graduate Student (first year study project), Department of Cellular Physiology and Immunology, Rockefeller University, NY.**
- 1976** **Post Graduate Exchange Student, Fellow of the Watson Foundation, Department of Immunology, John Curtin School for Medical Research, Australian National University, Canberra, Australia.**
- 1972-1975** **Undergraduate Research (includes NSF undergraduate fellowship for one summer), Laboratory of Phage Morphogenesis, Department of Biology, California Institute of Technology. Dr. William Wood, Laboratory Head.**

AWARDS, GRANTS & FELLOWSHIPS:

ACTIVE:

- 2014 – 2019** **“BUILDING SCHOLARS”, NIH-BUILD, Co-PI, \$23 million.**
- 2014 – 2019** **“Program to Educate and Retain Students in STEM Tracks (PERSIST)”, HHMI, PI \$2.4 million**
Increase retention of freshmen and sophomore students in STEM disciplines by recruiting entering, first-time freshmen in a newly developed three course-sequence that includes course based research experiences in biology, chemistry, forensic science and geology, helping students develop an early professional identity as research scientists.

COMPLETED:

- 2010 – 2013** **“UTEP NGRI in Phage”, HHMI-SEA, PI**
Establish and direct an entering freshman “Phage Hunter” lab in collaboration with the Science Education Alliance.
- 2009 – 2013** **“UBM-Institutional: Undergraduate Training in Bioinformatics”, NSF, Co-PI \$87,000**
Establish an Undergraduate training program for Bioinformatics at UTEP.
- 2008 – 2014** **“MARC Phase II: Enhancement of Quantitative Science in the Biology Curriculum”, NIH, PI/PD \$1.29 million**

Enhance the Quantitative skills of students in Biomedical degree programs through collaborative course redesign across Mathematical Sciences, Computer Science, Chemistry, and Biological Sciences.

2006 – 2012 **“Development of Curricular and Team Research in Biomedicine”, HHMI Precollege and Undergraduate Science Education, PI/PD \$1.5 million**

Establish a universal curricular research experience for all Biology/Biomedical and Microbiology majors, including the development of an Undergraduate Research Laboratory complete with modern instrumentation in Cell and Molecular Biology.

2009 **"CDRA On-Orbit Anomaly Investigation", Boeing International Space Station (ISS) Support, Contract No. 9H10587, Role:PI/Task Leader. \$56,896**

Investigations into the root cause of failure of the carbon dioxide removal system in use on the International Space Station.

2007-2008 **“Course development for BIOL 1304 Human Biology, 1104 Human Biology Lab, and 3330 Histology”, University of Texas TeleCampus, Project PI. \$8,000**

Adaptation of an online Histology course for delivery on the University of Texas Telecampus platform.

2006 to 2008 **"Teachers for a New Era", Carnegie Corporation, Project Director for two years of five year proposal. Budget of 1.2 million per year.**

Enhance the role of content disciplines in the preparation of K-12 teachers and develop and use quantitative measures to assess the effectiveness of teacher preparation.

2005-2007 **“Sub-Project for MARC Bioinformatics Grant to Pittsburgh Supercomputing Center, National Institutes of Health, Co-PI of Sub-Contract. Sub-contract budget \$79,000**

Collaboration with Pittsburgh Supercomputing Center to enhance the quality of training in the Bioinformatics MS program.

2002-2007 **“Biomedical Research Center”, NIH G12-RR08124, Director of DNA Analysis Core Facility. Core Facility budget ca \$57,000/yr**

Design and implement a shared core facility to support DNA analysis, including DNA sequencing and microarray analysis. Developed and implemented an independent budget for this portion of the RCMI grant.

2005-2006 **“Purpose: to obtain a p590 16 multiprocessor system with 64 GB memory**

from IBM”, IBM shared University Research, Co-I. \$600,000

Instrumentation grant to obtain multiprocessor based computing capability to support high performance computing. My role centered on use of such capability in bioinformatic analysis in research and instruction.

2004-2006 “Acquisition of a DNA microarray reader and scanner”, NSF, Co-I. \$207,152

Instrumentation grant to acquire microarray capability for the DNA core facility, supporting the Border Biomedical Research Center.

2004-2005 “Enhancement of Computational Biology Curricula”, NIH, Co-PI. \$54,000

MARC Supplement to develop proposal for Phase II curriculum development.

2003-2005 “Trypanosoma cruzi (Chagas’ Disease) in the West Texas Border Region”, Lizanell and Colbert Coldwell Foundation, Project PI. \$10,000

Analyze of the extent of penetration of American trypanosomiasis into the West Texas region through collection and testing of potential insect vectors and the testing of blood of residents exposed to those vectors.

2003-2005 “Trypanosoma cruzi (Chagas’) in the Border Region”, CONAHEC, Project PI. \$15,000

Extend the West Texas study on T. cruzi to a cross-border collaboration with Mexican scientists.

1999-2004 “Giardia: a model for ancient eukaryotic genome analyses,” NIH R01 subcontract, subcontract PI. \$387,660

Sequence, assemble, and analyze the complete genome of the Human parasitic protist, Giardia lamblia.

2003 “High Performance Computing at UTEP”, IBM, Co-I, \$500,000

Grant for the purchase of a 12 node, high performance computer at UTEP. PI Dr. Pat Teller.

1999-2003 “Mechanism of giardicidal activity of intestinal defensins”, NIH-SCORE, project PI. \$341,002

Explore the possible mechanism of killing of giardia by naturally occurring, small peptides.

1998-2003 “Border Biomedical Research Center”, NIH-RCMI. Role on Project: Director Infectious Disease Unit. Unit Budget \$125,000/yr

Recruit and develop faculty to study infectious diseases relevant to the west Texas border region. As director of one of three primary units of this supporting grant for the Border biomedical research facility, I developed and administered an independent budget for this unit.

- 1999-2002** **“Histology: Creation of an online Histology laboratory course”, NASA-MuSPIN-NRTS, PI of subproject \$10,000**
- Adaptation of a computer assisted lecture/laboratory course to a fully online format, in collaboration with Dr. Michael Kolitsky.
- 1999-2000** **“Genotyping and Rapid Molecular Determination of Drug Resistance of Clinical Isolates of *Mycobacterium tuberculosis* from the El Paso/Ciudad Juarez Border Region. Lizanell and Colbert Coldwell Foundation Grant, project PI. \$20,000**
- Implemented a rapid assay for rif resistance in Mtb using PCR and sequencing.
- 1999** **“Acquisition of Liquid Chromatography - Mass Spectrometer for Protein analyses”, Co- Investigator. \$250,000**
- Instrumentation grant acquiring the first protein analysis mass spectrometer at UTEP. My role in the project was to use in proteomic analysis *Giardia lamblia* and to support other BBRC projects.
- 1997-1999** **"Acquisition of laser scanning confocal microscope and an atomic microscope for investigations in the environmental, live and material sciences", NSF-MRI, Co-Investigator \$218,000**
- Instrumentation grant to purchase two specialized microscopes. My role in the project was use of the atomic force microscope to analyze DNA samples in wet mount for enzyme cleavage studies.
- 1996-1999** **“Physical Mapping of the *Giardia* Genome”, MBRS Award, Project PI \$260,324**
- First sampling of the genome sequence of *Giardia lamblia*. Data obtained here was used as part of the basis for the multi-institution project to sequence and assemble the entire genome of the organism.
- 1995-1996** **“Intestinal Defensins and *Giardia lamblia*”, URI Fellowship, PI. \$5,241**
- Institutional funding supporting preliminary studies later used to develop a full research proposal on the effect of naturally occurring peptides on giardial trophozoites.
- 1981-1983** **Rockefeller Foundation Post-Doctoral Fellowship, National Institute of Allergy and Infectious Diseases.**

Study immunologically and biochemically variant membrane proteins found on the surface of malaria infected red blood cells.

- 1977-1980** **NSF Graduate Studies Fellowship, Rockefeller University.**
- 1976, 1981** **Rockefeller University Graduate Fellowship, Rockefeller University.**
- 1975-1976** **Thomas J. Watson International Exchange Fellowship,
John Curtin School for Medical Research**
- 1974-1975** **ARCS Undergraduate Scholar, Calif. Inst. of Tech.**
- 1971** **National Merit Scholar, Calif. Inst. of Tech.**

BIBLIOGRAPHY

I. PUBLISHED RESEARCH ARTICLES

Reviewed:

1. Yin, H.L., S.B. Aley, C. Bianco and Z.A. Cohn, 1980. Plasma membrane polypeptides of resident and activated mouse peritoneal macrophages. Proc. Nat. Acad. Sci. 77:2188-2191.
2. Aley, S.B., W.A. Scott and Z.A. Cohn, 1980. Plasma membrane of Entamoeba histolytica. J. Exp. Med. 152:391-404.
3. Aley, S.B., W.A. Scott and Z.A. Cohn, 1980. Isolation of the plasma membrane of Entamoeba histolytica. Archiv. Investigacion Medica 11 (sup 1):41-46.
4. Murray, H.W., S.B. Aley and W.A. Scott, 1981. Susceptibility of Entamoeba histolytica to oxygen intermediates. Mol. Bio. Parasit. 3:381-393.
5. Howard, R.J., J.W. Barnwell, W.A. Daniel and S.B. Aley, 1982. Radioiodination of new protein antigens on the surface of Plasmodium knowlesi schizont-infected erythrocytes. Mol. Bio. Parasit. 6:331-397.
6. Howard, R.J., S.B. Aley and P.F. Lemkin, 1983. High resolution comparison of Plasmodium knowlesi clones of different variant antigen phenotypes by two-dimensional gel electrophoresis and computer analysis. Electrophoresis, 4:420-427.
7. Fahey, R.C., G.L. Newton, B. Arrick, T. Overdank-Bogart and S.B. Aley, 1984. Entamoeba histolytica: A eukaryote without glutathione metabolism. Science, 224:70-72.
8. Howard, R.J., J.A. Lyon, C.L. Diggs, J.D. Haynes, J.H. Leech, J.W. Barnwell, S.B. Aley, M.

- Aikawa and L.H. Miller, 1984. Localization of the major Plasmodium falciparum glycoprotein on the surface of mature intraerythrocytic trophozoites and schizonts. *Mol. Bio. Parasit.* 11:349-362.
9. Aley, S.B., J.W. Barnwell, W. Daniel and R.J. Howard, 1984. Identification of parasite proteins in a membrane preparation enriched for the surface membrane of erythrocytes infected with Plasmodium knowlesi. *Mol. Bio. Parasit.* 12:69-84.
 10. Aley, S.B., Z.A. Cohn, and W.A. Scott 1984. Endocytosis in Entamoeba histolytica. Evidence for a unique, non-acidified compartment. *J.Exp. Med.* 160:624-37.
 11. Leech, J.H., S.B. Aley, L.H. Miller and R.J. Howard, 1984. Plasmodium falciparum malaria: Cytoadherence of infected erythrocytes to endothelial cells and associated changes in the erythrocyte membrane. *Prog. Clin. Biol. Res.*, 155:63-77.
 12. Aley, S.B., J.A. Sherwood and R.J. Howard, 1984. Knob positive and knob negative Plasmodium falciparum differ in expression of a strain-specific malarial antigen on the surface of infected erythrocytes. *J. Exp. Med.* 160:1585-90.
 13. McLaughlin, J. and Aley, S.B., 1985. The Biochemistry and Functional Morphology of the Entamoeba. *J. Protozool.* 32:221-240.
 14. Kutner, S., Breuer, W.V., Ginsburg, H., Aley, S.B. and Cabantchik, Z.I. 1985. Characterization of Permeation Pathways in the Plasma membrane of human erythrocytes infected with early stages of Plasmodium falciparum: Association with parasite development. *J. Cell Physiol.*125:521-527.
 15. Howard, R.J., McBride, J.S., Aley, S.B., and Marsh, K., 1986. Antigenic diversity and size diversity of *P. falciparum* antigens in isolates from Gambian patients. II. The schizont surface glycoprotein of molecular weight approximately 200,000. *Parasite Immunol.* 8:56-68.
 16. Aley, S.B., Sherwood, J.A., Marsh, K., Eidelman, O., and Howard, R.J. 1986. Identification of Plasmodium falciparum isolate-Specific Proteins on sorbitol-enriched Parasitized Erythrocytes from Gambian Patients. *Parasitology* 92:511-525.
 17. Howard, R.J., Uni, S., Aikawa, M., Aley, S.B., Leech, J.H., Lew, A.M., Wellems, T.E., Rener, J., and Taylor, D.W. 1986. Secretion of a Malarial Histidine-rich Protein (PfHRP II) from Plasmodium falciparum-infected Erythrocytes, *J. Cell Biol.* 103:1269-1277.
 18. Sherwood, J.A., Spitalnik, S.L., Aley, S.B., Quakyi, I.A., and Howard, R.J. 1986. Plasmodium falciparum: The initial Identification and Characterization of Glycolipids Synthesized by a Malaria Parasite. *Exp. Parasitology.* 62:127-141.
 19. Taylor, D.W., Evans, C.B., Hennessy, G.W., and Aley, S.B. 1986. Use of a Two-Sited Monoclonal Antibody Assay for Detecting a Heat-Stable Malarial Antigen in the Sera of Mice Infected with Plasmodium yoelii. *Infect. Immun.* 51:884-890.

20. Aley, S.B., Bates, M.B., Hockmeyer, W.T., Miller, L.H., and Hollingdale, M.R. 1986. Repeat region of P. falciparum circumsporozoite protein does not recognize or bind to Human hepatoma target cell. Mem. Inst. Oswaldo Cruz 81 (Suppl. II):131-134.
21. Aley, S.B., Bates, M.B., Tam, J.P., and Hollingdale, M.R. 1986. Synthetic peptides from the circumsporozoite proteins of Plasmodium falciparum and Plasmodium knowlesi recognize the human hepatoma cell line HepG2-A16 in vitro. J. Exp. Med. 164:1915-1922.
22. Aley, S.B., Barnwell, J.W., Bates, M.D., Collins, W.E., and Hollingdale, M.R. 1987. Plasmodium vivax: Exoerythrocytic schizonts recognized by monoclonal antibodies against blood-stage schizonts. Exp. Parasitol. 64:188-194.
23. Taylor, D.W., Parra, M., Chapman, G.B., Stearns, M.E., Rener, J., Aikawa, M., Uni, S., Aley, S.B., Panton, L.J., and Howard, R.J. 1987. Localization of Plasmodium falciparum histidine-rich Protein 1 in erythrocyte skeleton under knobs. Mol. Biochem. Parasitol. 25:165-174.
24. Hollingdale, M.R., Ballou, W.R., Aley, S.B., Young, J.F., Pancake, S., Miller, L.H., and Hockmeyer, W.T. 1987. Plasmodium falciparum: Elicitation by peptides and recombinant circumsporozoite proteins of circulating mouse antibodies inhibiting sporozoite invasion of hepatoma cells. Exp. Parasitol., 63: 345-352.
25. Aley, S.B., Atkinson, C.T., Aikawa, M., Maloy, W.L., and Hollingdale, M.R., 1987. Ultrastructural localization of Plasmodium falciparum circumsporozoite protein in newly invaded hepatoma cells. J. Parasitol., 73: 1241-5.
26. Campbell, G.H., Aley, S.B., Hall, T., Hoffmann, S.L., Hollingdale, M.R., Howard, R.J., Lyon, J.A., Nardin, E., Nussenzweig, R., Nussenzweig, V., Tsang, V.C.W., Weber, J.L., Wellems, T.E., and Zavala, F. 1987. Use of synthetic and recombinant peptides in the study of host-parasite interactions in malaria. Am. J. Trop. Med Hyg., 37: 428-44.
27. Howard, R.J., Lyon, J.A., Uni, S., Saul, A.J., Aley, S.B., Klotz, F., Panton, L.J., Sherwood, J.A., Marsh, K., Aikawa, M. 1987. Transport of an Mr approximately 300,000 Plasmodium falciparum protein (Pf EMP 2) from the intraerythrocytic asexual parasite to the cytoplasmic face of the host cell membrane. J. Cell Biol., 104: 1269-80.
28. Atkinson, C.T., Aikawa, M., Aley, S.B., and Hollingdale, M.R., 1989, Expression of Plasmodium berghei circumsporozoite antigen on the surface of erythrocytic schizonts and merozoites. Am. J. Trop. Med. Hyg., 41:9-17.
29. Gillin, F.D., Hagblom, P. Harwood, J., Aley, S.B., Reiner, D.S., McCaffery, M., So, M., and Guiney, D.G., 1990. Isolation and expression of the gene for a major surface protein of Giardia lamblia. Proc. Nat. Acad. Sci. (USA), 87:4463-7.
30. Taylor, D.W., Evans, C.B., Aley, S.B., Barta, J.R., and Danforth, H.D., 1990, Identification of an apically-located antigen that is conserved in sporozoan parasites. J. Protozool., 37(6):540-545.

31. Zhang, Y-Y., S.B. Aley, S.L. Stanley, Jr., and F.D. Gillin. 1993. Zinc Binding by the Cysteine-Rich Variant Surface Protein of Giardia lamblia. *Infect. Immun.* 61:580-584.
32. Aley, S.B. and F.D. Gillin, 1993, Giardia lamblia: Post-translational procession and status of exposed cysteine residues in TSA 417, a variable surface antigen. *Exp. Parasitol.* 77:295-305.
33. Das, S., A. Traynor-Kaplan, U. Kachintorn, S.B. Aley, and F.D. Gillin. 1994, GP49, an invariant GPI-anchored antigen of Giardia lamblia. *Brazilian J. Med. Biol. Res.* 27:463-469.
34. Aley, S.B., Zimmerman, M., Selsted, M.E., and Gillin, F.D., 1994, Killing of Giardia lamblia by Cryptdins and other Defensin-like peptides. *Infection and Immunity* 62:5397-5403.
35. Aley, S.B., and Gillin, F.D. 1995. Specialized Surface Adaptations of *Giardia lamblia*. *Infectious Agents and Disease* 4:161-166.
36. Turchany, J.M., Aley, S.B., and Gillin, F.D. Giardicidal Activity of Lactoferrin and N-Terminal Peptides. 1995. *Infection and Immunity* 63:4550-4552.
37. Meng, T.-C., Aley, S.B., Svard, S.G., Smith, M.W., Huang, B., Kim, J., and Gillin, F.D., 1996, Immunolocalization and sequence of caltractin/centrin from the early branching eukaryote *Giardia lamblia*, *Mol. Biochem. Parasitol.*, 79:103-108.
38. Que, X., Svard, S., Meng, T.-C., Hetsko, M.L., Aley, S.B., and Gillin, F.D., 1996, Developmentally regulated transcripts and evidence of differential mRNA processing in *Giardia lamblia*., *Mol. Biochem. Parasitol.*, 81:101-110.
39. Gillin, F.D., Reiner, D.S., Hetsko, M.L., Das, S., Ward, H.D., Gaubert, G.M., Meng, T.C., McCaffery, M., Aley, S. B., Que, X., 1996. Regulation of *Giardia lamblia* Enystation and Excystation, *Acta Parasitologica Turcica*, 1996, Sup. 1.
40. Turchany, J.M., McCaffery, J.M., Aley, S.B., and Gillin, F.D. 1997. Ultrastructural Effects of Lactoferrin Binding on *Giardia lamblia* Trophozoites. *J. Euk. Microbiol.* 44:68-72.
41. Das, S., Schteingart, C.D., Hofmann, A.F., Reiner, D.S., Aley, S.B., Gillin, F.D., 1997. *Giardia lamblia*: evidence for carrier-mediated uptake and release of conjugated bile acids. *Exper. Parasitology.* 87:133-41.
42. *Smith, M.W., *Aley, S.B., Sogin, M., Gillin, F.D., and Evans, G.E. 1998. Sequence Survey of the *Giardia lamblia* Genome, *Mol. Biochem. Parasitol.* 95:267-280.
*equal contributions.
43. Schuster, E.F., Aley, S.B., and Bader, J. 1999. Testing Randomness of DNA Sequence Motifs as a Way to Identify *Giardia lamblia* Specific Sequences. *Computing Science and Statistics*, 30, ed. S. Weisburg, Interface Foundation of North America, Inc.
44. Knodler, L.A., Noiva, R., Mehta, K., McCaffery, J.M., Aley, S.B., Svard, S.G., Nystul, T.G., Reiner, D. S., Silberman, J.D., and Gillin, F.D., Novel Protein Disulfide Isomerases from

- the Early-Diverging Protist, *Giardia lamblia*. 1999. J. Biol. Chem. 274: 29805-29811.
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 46. D.L. Kretzer, G. Zamora, and S.B. Aley, 2005, Sequencing the 5' end of the *Giardia lamblia* TOR gene, Proceedings, 6th and 7th Annual DoE EPSCoR HRD and LS-LAMP Student Research Conference. Pp 99 – 101.
 47. Y. Hernandez, C. Castillo, S. Roychowdhury, A. Hehl, SB. Aley, and S. Das, 2007, Clathrin-dependent pathways and the cytoskeleton network are involved in ceramide endocytosis by a parasitic protozoan *Giardia lamblia*., Int. J. Parasitol., 37(1):21-32.
 48. Y. Hernandez, G. Zamora, S. Ray, J. Chapoy, E. Chavez, R. Valverde, E. Williams, SB. Aley, and S. Das, 2007, Transcriptional Analysis of Three Major Putative Phosphatidylinositol Kinase Genes in a Parasitic Protozoan, *Giardia lamblia*, J. Eukaryot. Microbiol, 54(1):29-32
 49. Hilary G. Morrison, Andrew G. McArthur, Frances D. Gillin, Stephen B. Aley, Rodney D. Adam, Gary J. Olsen, David S. Reiner, Staffan G. Svard, Heidi G. Elmendorf, Adrian B. Hehl, John Samuelson, Julie E. J. Nixon, Nora E. Passamaneck, Ulandt U. Kim, Erica Lasek-Nesselquist, Michael J. Cipriano, Michael E. Holder, Susan M. Huse, Daniel Palm, Aaron A. Best, Claudia I. Reich, Gerard Manning, Anuranjini Nigam, Anjali Prabhu, Barbara J. Davids, and Mitchell L. Sogin, 2007, Genomic minimalism in the early diverging, intestinal parasite, *Giardia lamblia*, Science 317, pp 1921-1926.
 50. Mayte Yichoy, Ernesto S. Nakayasu, Max Shpak, Clemente Aguilar, Stephen B. Aley, Igor C. Almeida, and Siddhartha Das, 2009, Lipidomic Analysis Reveals that Phosphatidylglycerol and Phosphatidylethanolamine are two newly synthesized Phospholipids in Early Divergent Protozoan, *Giardia lamblia*, Mol. Bioch. Parasitol., 156(1), pp 67-78.
 51. Mayte Yichoy, T.T. Duarte, A. De Chatterjee, T.L. Mendez, K.Y. Aguilera, D. Roy, S. Roychowdhury, S.B. Aley, and S. Das, 2011, Lipid metabolism in *Giardia*: a post-genomic perspective, Parasitology, 138(3):267-278.
 52. Mayte Yichoy, Ernesto S. Nakayasu, A. Chatterjee, Stephen B. Aley, Igor C. Almeida, Siddhartha Das, 2011, Mass spectrometric Analysis of Phospholipids and Fatty Acids in *Giardia lamblia*, in *Giardia: A Model Organism*, Hugo Lujan and Staffan Svard, editors, Chapter 7, pp 111-126.

Non-Reviewed Publications:

- E.C. Scott, N.J. et al. (443 total authors), 2004, The Morphology of Steve, Annals of Improbable Research July-August, p 24 – 29. [tongue in cheek analysis of the “Project Steve” participants. Project Steve, of which I am one of the 200 original members, is an international project in education in Evolutionary Biology.]

S.R. Hurley, S.B. Aley, and R.S. Jarvis, 2007, UTEP's Institutional Report for Distance Education and Off-Campus Instruction, Texas Higher Education Coordinating Board, Austin, TX.

S.B. Aley, 2012, "Texas Creates Reverse Transfer: El Paso Community College and University of Texas at El Paso", in Ramping Up for STEM Success: Pathways for Student Transfer; Association of American Colleges and Universities, pp 6-7.

SELECTED PRESENTATIONS FROM RECENT MEETINGS

Complete List of Presentations provided by request

Symposium for Diversity in the Sciences, University of Washington, Seattle, WA, 2006; 'The "Two Plus Two" Strategy for Student Success', Ahlam Azam, Georgina Carballo, Michael Eastman, Stephen Aley, and James E. Becvar

HHMI Quantitative Biology Workshop, East Tennessee State University, TN, 2007; "Biology and Mathematics at the University of Texas at El Paso", Nancy Marcus and Stephen B. Aley

Annual Meeting: Ready or Not: Global Challenges, College Learning, and America's Promise, AAC&U Seattle, Washington, 2009; "Mathematics Preparation and Student Inclusion", Stephen B. Aley and Nancy M. Marcus

Invited presentation, Eastern Washington University, Cheney, WA, 2009; "Mathematics Preparation and Student Inclusion", Stephen B. Aley,

Transforming Undergraduate Education in Biology: Mobilizing the community for Change, National Science Foundation, Washington DC, 2009; "Increasing Graduate-Level Success among Underserved Students Through Meaningful Undergraduate Research Experience", Stephen B. Aley, Ann Darnell, Rosa A Maldonado-Medina, Kristine Garza

General Meeting of the American Society for Microbiology, San Diego, CA, 2010; Modifying Core Biology Labs to Provide a Universal Research Experience: What are the Benefits?, Stephen B. Aley, Ann Darnell, Rosa Maldonado-Medina, and Kristine Garza.

MORE Division Directors' Meeting, Chicago, IL, 2010; Curriculum Redesign Across the disciplines: A holistic Approach to Improving Quantitative Skills and Perceptions in Biomedical Students; Stephen B. Aley, Ann Darnell, Elizabeth J. Walsh, Joan Staniswalis, and Martine Ceberio.

Sun Conference, El Paso, TX, 2011; Research Courses for the Entering College Student; Stephen B. Aley, Manuel Llano, and German Rosas-Acosta.

Rio Grande ASM Regional conference, Albuquerque, NM, 2011; Freshmen Phage Hunters; Stephen B. Aley.

Sun Conference, El Paso, TX, 2012; Classroom Research Experiences in STEM; Stephen Aley, Manuel Llano, German Rosas-Acosta.

SEA Phage Symposium, Janelia Farms, VA, 2012; The Phage Hunters Laboratory Course at the University of Texas at El Paso: A model approach to enhance student performance in Universities serving at-risk student populations. German Rosas-Acosta, Manuel Llano, and Stephen B. Aley.

TEACHING EXPERIENCE:

Undergraduate Courses (UTEP):

General Microbiology for Majors (with Laboratory)

Pathogenic Microbiology (with Laboratory)

Virology

Molecular Cell Biology (with Laboratory)

Medical Parasitology (with Laboratory)

Prokaryotic Cell Genetics (with Laboratory)

Histology (with Laboratory)

Phage Hunter Freshman Biology Laboratory

(Science Education Alliance -- National Genome Research Initiative)

Graduate Courses (UTEP):

Bioinformatics I (with Laboratory)

Bioinformatics II (with Laboratory)

Macromolecules (Biochemistry)

Molecular Parasitology

Pathobiology

Advanced Research Methods

Medical School (UCSD Medical Center, part of teaching team)

Biochemistry

Microbiology