

CURRICULUM VITAE

NAME: DAVID W. PASCUAL, Ph.D.

OFFICE ADDRESS: Professor of Immunology
Department of Infectious Diseases & Pathology
College of Veterinary Medicine
Emerging Pathogens Institute
University of Florida
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Gainesville, FL 32608
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E-mail: pascuald@ufl.edu

EDUCATION:

1977-1980 University of Florida, Gainesville, FL, B.S., Microbiology
1981-1985 University of Mississippi Medical Center, Jackson, MS, M.S.,
Microbiology
1985-1987 University of Mississippi Medical Center, Jackson, MS, Ph.D.,
Microbiology
1987-1988 University of Alabama at Birmingham, Department of Physiology
and Biophysics, Birmingham, AL, Postdoctoral Fellow
1988-1990 University of Alabama at Birmingham, Department of Physiology,
Birmingham, AL, Postdoctoral Fellow, NIH Hypertension Training
Grant Fellowship
1989 AAI Course in Advanced Immunology, Lindenberg College,
St. Charles, MO
2007 Biosafety Level 3 Safety Training, Emory University Onsite Applied
Biosafety Training Program, Bozeman, MT

PROFESSIONAL AND TEACHING EXPERIENCE:

1986 and 1987 Teaching responsibilities in Medical Microbiology to School of Health
Related Sciences, University of Mississippi Medical Center
1987-1990 Postdoctoral Fellow, Department of Physiology, University of Alabama at
Birmingham
1990: Consultant, Masonic Medical Research Laboratory, Utica, New York
1990-1992 Research Instructor, Departments of Oral Biology and Microbiology,
University of Alabama at Birmingham

1992-1995 Research Assistant Professor, Department of Oral Biology, University of Alabama at Birmingham

1991: Lecturer, Department of Microbiology, Advanced Graduate Student Course, "Mucosal Immunology," University of Alabama at Birmingham

1993: Lecturer, Department of Oral Biology, Post-Graduate Student Course, "Oral Microbiology and Immunology," University of Alabama at Birmingham
Lecturer, Department of Oral Biology, Dental "Cellular and Molecular Immunology," University of Alabama at Birmingham

1995-1998: Assistant Professor of Immunology, Veterinary Molecular Biology, Montana State University

1998-2005 Associate Professor of Immunology, Veterinary Molecular Biology, Montana State University

1996-present: Lecturer, Veterinary Molecular Biology, Biotechnology Program, Montana State University

1998-present: Course Coordinator, Veterinary Molecular Biology, "Advanced Immunology," Montana State University

2005-present: Lecturer, Veterinary Molecular Biology, "Infectious Diseases," Montana State University

2000-2012: Director, Center for Bison Studies

2001-2012: tenured faculty

2003-2011: Affiliate Associate Professor, Department of Immunology, University of Washington

2005-2012: Professor of Immunology, Department of Immunology & Infectious Diseases (formerly *Veterinary Molecular Biology*), Montana State University

2012-present: Professor of Immunology, Department of Infectious Diseases & Pathology, College of Veterinary Medicine, University of Florida.

2012-present: Member, Emerging Pathogens Institute, University of Florida

RESEARCH SUPPORT:

2000 - 2016

Project period May 1, 2011 - April 30, 2016: "Subunit Vaccines for *Brucella* Pathogens," NIH-NIAID 1R01 AI-093372-01 . \$472,913 for 05/01/11 - 04/30/12. D. W. Pascual, Principal Investigator.

Project period August 19, 2011 - July 31, 2016: "Novel Multivalent Vaccine for Anthrax and Botulinum," NIH-NIAID 1R01 AI-093370-01. D. W. Pascual, Project Leader; Mansour Mohamadzadeh, Principal Investigator.

Project Number July 1, 2012 - June 30, 2016: "Mucosal Vaccination to Protect Against HIV-1 Infection at Mucosal Sites," NIH/NIAID 1R01 AI-102747, \$350,140 for 07/01/2012 - 06/30/2016. D. W. Pascual, Co-Investigator; Herman F. Staats, Principal Investigator.

Project period September 15, 2010 - September 14, 2012: "Brucellosis Vaccines, MT," USDA-NIFA 2010-34397-21391. \$283,854 for 09/15/10 - 09/14/11. D.W. Pascual, Principal Investigator.

Project period August 15, 2010 - May 31, 2012: "Mechanisms of IL-35 Protection Against Arthritis," NIH-NIAMS and Office of Research on Women's Health (ORWH) 1R21 AR-058010. \$200,001 for 08/15/10 - 05/31/11. \$366,668 for 08/15/10 - 05/31/12. D. W. Pascual, Principal Investigator.

Project period March 1, 2009 - February 28, 2014: "Mucosal Therapy for Autoimmunity," NIH-NIAID 1 R01 AI-078938. \$345,625 for 03/01/09 - 02/28/10. D. W. Pascual, Principal Investigator.

Project period September 1, 2009 - August 31, 2010: "Brucellosis Vaccines, MT," USDA-NIFA 2009-34397-20133. \$284,348 for 09/01/09 - 08/31/10. D.W. Pascual, Principal Investigator.

Project period August 1, 2008 - July 31, 2013: "CAMs as Counter Measures Against Infectious & Inflammatory Diseases," "PROJECT 3: Anti-Inflammatory Microbial CAM & Arthritis," NIH/NCCAM P01 AT004986-01. \$310,000 for 08/01/08 - 07/31/09. \$1,592,500 for 08/01/08 - 07/31/13. D.W. Pascual, Project Leader (Jutila, M.A., Principal Investigator).

Project period August 1, 2008 - July 31, 2013: "CAMs as Counter Measures Against Infectious & Inflammatory Diseases," "Core B: Animal Models Core," NIH/NCCAM P01 AT004986-01. \$250,293 for 08/01/08 - 07/31/09. \$1,251,464 for 08/01/08 - 07/31/13. D.W. Pascual, Project Leader (Jutila, M.A., Principal Investigator).

Project period August 1, 2008 - July 31, 2009: "Brucellosis Vaccines, MT," USDA 2008-03776. \$302,799 for 08/01/08 - 07/31/09. D.W. Pascual, Principal Investigator.

Project period September 1, 2007 - May 31, 2009: "CAM Intervention for Rheumatoid Arthritis," NIH-NCCAM 1R21 AT004312. \$212,250 for 09/01/07 - 05/31/08. D. W. Pascual, Principal Investigator.

Project Period May 1, 2007 - April 30, 2008: "Novel Vaccine Platform and Adjuvants for Biodefense" as part of Rocky Mountain Region RCE in Biodefense, NIH-NIAID U54 AI-065357-01. \$100,000 for 05/1/07 - 04/30/08. D.W. Pascual, Project Leader (Belise, J., Principal Investigator).

Project period December 12, 2005 - February 29, 2008: "Surface Modified Nanostructures as Delivery Vehicles for Vaccines," Gates Foundation. \$118,600 for 12/12/05 - 02/29/08. María José Alonso Fernández, Principal Investigator, University of Santiago de Compostela, Spain. D.W. Pascual, Project Leader.

Project period July 1, 2005 - June 30, 2008: "Brucellosis Vaccines, MT," USDA 2006-06047. \$406,657 for period 07/01/06 - 06/30/07. D.W. Pascual, Principal Investigator.

Project Period June 1, 2005 - April 30, 2009: "Project 4: DNA Vaccines for Q Fever" as part of Rocky Mountain Region RCE in Biodefense, NIH-NIAID U54 AI-065357-01. \$215,080 for 06/1/05 - 05/31/06. D.W. Pascual, Project Leader (Belise, J., Principal Investigator).

Project period April 1, 2005 - March 31, 2010: "Mucosal Immunity Elicited by *Salmonella* Vaccine Delivery," NIH-NIAID 2R01 AI-41123. \$283,000 for 04/01/07 - 03/31/08. D. W. Pascual, Principal Investigator.

Project period April 1, 2004 - March 31, 2009: "Mucosal Lymphocyte Homing in the Head and Neck," NIH-NIAID R01 AI-55563. \$308,000 for 04/01/07 - 03/31/08. \$1,573,200 for 5 years. D. W. Pascual, Principal Investigator.

Project period January 1, 2004 - May 30, 2005: "M Cell Delivery Platform of Plague," NIH-NIAID RCE Developmental Award (Univ. of Washington). \$174,463 for 18 months. D.W. Pascual, Principal Investigator.

Project period July 1, 2004 - June 30, 2008: "Mucosal Vaccines for Plague," NIH-NIAID R01 AI-56286. \$1,306,263 for three years. D.W. Pascual, Principal Investigator.

Project period December 30, 2003 - December 29, 2008: "Innate Immune Receptors and Adjuvant Discovery," NIH-NIAID Contract N01 AI-40009. D. W. Pascual, Investigator (10% effort). (Jutila, M., PI)

Project period July 1, 2004 - June 30, 2009: "COBRE: Center for Immunotherapies to Zoonotic Diseases," NIH-NCRR P20 RR-020185. D. W. Pascual, Investigator (15% effort beginning in 2005). (Harmsen, A.G., PI)

Project period May 1, 2001 - April 30, 2005: "Mucosal Transgene Vaccination for HIV," NIH-NIAID R01 AI-49071. \$270,875 for 05/01/03 - 04/30/04. \$831,042 for three years. D.W. Pascual, Principal Investigator.

Project period September 1, 2000 - June 30, 2006: "Targeted DNA Delivery for Salivary IgA Responses," NIH-NIDCR R01 DE-13812. \$1,062,500 for five years. D. W. Pascual, Principal Investigator.

Project period July 1, 2001 - June 30, 2005: "Brucellosis Vaccine Delivery for Bison," USDA 2004-06034. \$409,526 for period 07/01/04 - 06/30/05. D.W. Pascual, Principal Investigator.

1992-2003

Project period May 1, 2001 - April 30, 2003: "Vaccines for Livestock *E. coli* Scours and O157:H7," Montana Board of Research and Commercialization Technology. \$400,000 for two years. D.W.

Pascual, Principal Investigator.

Project period March 1, 2001 - August 31, 2001: "Microsphere Technology for Brucellosis Vaccine," Montana Department of Livestock. \$50,000 for period 03/1/01 - 08/31/01. D.W. Pascual, Principal Investigator.

Project period January 1, 1999 - December 31, 2001: "Mucosal Immunity Elicited by *Salmonella* Vaccine Delivery," NIH-NIAID R01 AI-41123. \$658,619 total for three years. D. W. Pascual, Principal Investigator.

Project period September 30, 1997 - September 29, 1999: "Directed DNA Immunization of Mucosal Tissues," NIH-NIAID R21 AI 42673. \$365,164 total for two years. D.W. Pascual, Principal Investigator.

Project period October 1, 1999 - September 30, 2001: "Mucosal Immunity to K99 Fimbriae Encoded by *Salmonella*: Vaccine for Bovine ETEC," NRI-CRGP, USDA 9901997. \$175,253 total for 2 years. D.W. Pascual, Principal Investigator.

Project period June 1, 2000 - June 30, 2001: "Brucellosis Vaccine Delivery for Bison," USDA 99-34397. \$397,587 for period 06/01/00 - 06/30/01. D.W. Pascual, Principal Investigator.

Project period June 15, 1999 - June 30, 2000: "Vaccine Delivery Systems for Bison," USDA 9902950. \$140,340 total for one year. D.W. Pascual, Principal Investigator.

Project period May 31, 1996 - May 30, 2001: "Intranasal Gene Transfer for Mucosal Vaccination," NIH-NIAID R01 AI/AR 40288. \$778,708 total for 5 years. D. W. Pascual, Principal Investigator.

Project period October 1, 1996 - September 30, 1999: "Mucosal Immunity to K99 Fimbriae Encoded by *Salmonella*: Vaccine for Bovine ETEC," NRI-CRGP, USDA 9602195. \$141,394 total for 2 years. D.W. Pascual, Principal Investigator.

Project period December 1, 1996 - November 30, 1998: "Attenuation of Virus-Induced Inflammation in CF Therapy," Cystic Fibrosis Foundation. \$200,000 total for 2 years. D.W. Pascual, Principal Investigator.

Project period February 1, 1997 - January 31, 1998: "FACSCalibur Flow Cytometry System, " NIH 1 S10 RR11877. \$135,000 total for 1 year. D.W. Pascual, Principal Investigator.

Project period November 1, 1997 - September 30, 1998: "Equipment Grant for an Automated DNA Sequencer, " NRI-CRGP, USDA. \$37,552 for period 10/1/96 - 09/30/97. D.W. Pascual, Co-Principal Investigator.

Project period March 1, 1992 - February 28, 1998: "Neuropeptide Regulation of B Lymphocyte Function," FIRST AWARD, NIH-NCI R29 CA 54430. \$350,000 total for 6 years. D. W. Pascual, Principal Investigator.

Project period October 1, 1996 - September 30, 1997: "Equipment Grant for FACSCaliber Cell Sorter," NRI-CRGP, USDA 9603774. \$50,000 for period 10/1/96 - 09/30/97. D.W. Pascual, Principal Investigator.

Project period August 1, 1997 - July 31, 1998: "A Preparative Ultracentrifuge and Rotors for Separation and Analysis of Biological Samples," BIO/IIID/MBE, NSF. \$52,150 for period 08/1/97 - 07/31/98. D.W. Pascual, Co-Principal Investigator.

Project period January 1, 1995 - December 31, 1996: "T Cell Immunity in Ade5-mediated CFTR Gene Therapy," Cystic Fibrosis Foundation application in Gene Therapy in Cystic Fibrosis. \$194,400 total for 2 years. D.W. Pascual, Principal Investigator.

Project period September 30, 1993 - September 29, 1995: "Mucosal Immunity and Cystic Fibrosis," Cystic Fibrosis Foundation. \$100,000 total for 2 years. D. W. Pascual, Principal Investigator.

Project period October 1, 1991 - September 30, 1996: "Mucosal Immunization Research Group," NIH-NIAID-DMID 15128. Provided partial salary support. D. W. Pascual, Co-Investigator.

Project period July 1, 1994 - June 30, 1995: "Immune Suppressor Mechanisms and Hypertension in the Spontaneously Hypertensive Rat," Alabama Affiliate, American Heart Association Grant-in-Aid application. \$30,000 for 07/01/94 - 06/30/95. D.W. Pascual, Principal Investigator.

Project period July 1, 1991 - June 30, 1993: "Correction of Spontaneously Hypertensive Rat T Cell Dysfunction Attenuates Its Hypertension," Grant-in-Aid AL-G-910024, American Heart Association, Alabama Affiliate. \$45,000 for period 07/1/91 - 06/30/93. D. W. Pascual, Principal Investigator.

Prior to 1992

Project period January, 1991 - March, 1992: Supplement to "Cellular and Molecular Basis for the IgA Response," R01 AI 18958-09. \$328,842 total for 5 years. D. W. Pascual, Minority Investigator.

Project period November, 1990 - October, 1991: "Regulation of B Cell Function by Substance P and Adrenocorticotrophic Hormone Upon B Cell Lymphomas," American Cancer Society Mini-Grant aided by IRG-66-31. \$10,000 for period 11/1/90 - 10/31/91. D. W. Pascual, Principal Investigator.

Project period October, 1988 - August, 1990: NIH Hypertension Training Grant Fellowship. \$5,000 total in research funds. D.W. Pascual, Postdoctoral Fellow.

COMMITTEE RESPONSIBILITIES

Editorial Service

2002-2006 Section Editor, Journal of Immunology
2003-2006 Associate Editor, Mucosal Immunology Update
1998-2002 Associate Editor, Journal of Immunology
1997-1998 Primary Reviewer, Journal of Immunology
1994-2014 Editorial Board, Infection and Immunity

Ad Hoc Reviewer for the Following:

-Journal of Infectious Diseases	-Human Gene Therapy
-Journal of Virology	-Gene Therapy
-American Journal of Physiology	-International Immunology
-American Journal of Hypertension	-Journal of Hypertension
-Regional Immunology	-Oncology Research
-Molecular and Cellular Biology	-Vaccine
-Clinical and Experimental Immunology	-Hypertension
-Journal of Wildlife Diseases	-Immunology
-The Journal of Experimental Medicine	-Journal of Neuroimmunology
-The Proceedings of the National Academy of Sciences, USA	-Blood
-Clinical and Vaccine Immunology	-BMC-Immunology
-PloS-ONE	-Oral Microbiology & Immunology
-Nature-Materials	-Mucosal Immunology
-Glia	

Grant Review Panels

Current Panels

Member, College of CSR Reviewers, NIH, 2010-2012.

Member, Oral, Dental and Craniofacial Sciences (ODCS) Study Section, NIH, 2006-2010.

Member, Clinical Neuroimmunology and Brain Tumors (formally, Brain Disorders and Clinical Neurosciences-4; BDCN-4) Study Section (CNBT), NIH, 1998 - 2006.

Member, Research Centers in Minority Institutions Review Committee (RCMI), NIH, 2000 - 2004

Chairman, Research Centers in Minority Institutions Review Committee (RCMI), NIH, 2004 - 2005

Ad Hoc Panels

Reviewer, Small Business Innovative Research Study Section, NIH-NIAID, Washington, D.C., December 1993.

Special Reviewer, Allergy, Immunology, and Transplantation Research Committee, NIH-NIAID, 1998.

Reviewer, Shared Instrumentation Grant Committee, ZRG-1, NIH, Washington, D.C., November 1998.

Special Reviewer, Allergy, Immunology, and Transplantation Research Committee, NIH-NIAID, 1999.

Site visit, NIH-NIAID Research Centers in Minority Institutions Review Committee, New York, December, 1999.

Reviewer, NIH-NIAID Research Centers in Minority Institutions Review Committee, Bethesda, MD, February, 2000.

Reviewer, NIH-NIAID Immunobiology and Fellowship Study Section, Bethesda, MD, February, 2000.

Site visit, NIH-NIAID Research Centers in Minority Institutions Review Committee, Ponce, Puerto Rico, March, 2000.

Special Reviewer, Oral Biology and Medicine Study Section, Subcommittee 1, NIH-NIDR, October, 2000.

Reviewer, Integrated Preclinical/Clinical AIDS Vaccine Development Program Study Section, NIH-NIAID, Bethesda, MD, November, 2001.

Reviewer, Special Emphasis Panel, SSS-F1, NIH-NIAID, Bethesda, MD, February, 2002.

Reviewer, Special Emphasis Panel for Oral Mucosa HIV RFAs, Bethesda, MD, March, 2003.

Reviewer, Oral, Dental, and Craniofacial Sciences Study Section, Washington, D.C., February, 2004.

Reviewer, ZRG1 IMM-F (06): Topics in Brain and Gut Immunity Study Section, August 18, 2004.

Reviewer, NIH-NCRR, INBRE, Washington, D.C., March, 2005.

Reviewer, Oral, Dental, and Craniofacial Sciences Study Section, June, 2005.

Reviewer, Intracellular Pathogen Program (ZAI1 QV-I-J2) Study Section, October, 2006.

Reviewer, Pennsylvania Department of Health, January, 2007; Progress Reviewer, 2008.

Reviewer, Cooperative Research Partnerships for Influenza Product Development (ZAI1-CCH-M-M2) Special Emphasis Panel, January 29-30, 2007.

Reviewer, Emerging Infectious Diseases ZAI1-EB-I-(S1) Special Emphasis Panel, May 17, 2007.

Reviewer, Special Emphasis Panel/Scientific Review Group 2007/10 ZRG1 MOSS-A (03), July 2, 2007.

Reviewer, Special Emphasis Panel, ZAI1-TP-M-J1/J2, Cooperative Research Partnerships for Biodefense, October 22-24, 2007.

Reviewer, HIV Vaccine Research and Design (HIVRAD) Program (P01), November 26, 2007.

Reviewer, Cooperative Centers for Translational Research on Human Immunology and Biodefense (U19), ZAI1-KS-1J3 Special Emphasis Panel, November 20-21, 2008.

Chair, ZRG1 MOSS-K (95) R ARRA Competitive Revision Applications, July 28, 2009.

Reviewer, Clinical Neuroimmunology and Brain Tumors 1 (CNBT-1) Study Section, NIH, Oct. 8-9, 2009.

Reviewer, Pennsylvania Department of Health, January, 20, 2010.

Reviewer, Special Emphasis Panel, ZAI1-PA-I-C3, Modeling Immunity for Biodefense, April 6-7, 2010.

Reviewer, Special Emphasis Panel/Scientific Review Group ZRG1 MOSS-B (03) M Meeting, November 17, 2010.

Reviewer, Special Emphasis Panel, ZAI1-BLG-M-M1, Partnerships for Next Generation Biodefense Diagnostics, February 18 & 28, 2011.

Reviewer, Oral Biology Conflicts Special Emphasis Panel ZRG1 MOSS G 02 Meeting, June 22, 2011.

Reviewer, Special Emphasis Panel, ZGM1 PPBC-7 (VD) Meeting, Program Project Review, August 12, 2011.

Reviewer, Immunity and Host Defense (IHD) Study Section, October 6-7, 2011.

Reviewer, Clinical Neuroimmunology and Brain Tumors 1 (CNBT-1) Study Section, NIH, February 16-17, 2012.

External Reviewer, Veteran's Administration

External Reviewer, NIH-NHLBI

External Reviewer, NSF

External Reviewer, National Academy of Sciences

External Reviewer, USDA NRI-CRGP - 1998, 1999, 2002, 2003, 2005

External Reviewer, North Carolina Biotechnology Center, 2003

External Reviewer, Natural Sciences & Engineering Research Council of Canada, 2003

External Reviewer, The Wellcome Trust, 2008, 2010

External Reviewer, Israel Vaccine Research Initiative, 2008

External Reviewer, The Research Council of Norway, 2008

External Reviewer, Georgia Research Alliance Collaboration, 2009

External Reviewer, National Medical Research Council, Singapore, 2011

External Reviewer, Rocky Mountain Research Center of Excellence for Biodefense and Emerging Infectious Diseases Research, 2011

INSTITUTIONAL COMMITTEE RESPONSIBILITIES

1996-2004: Member, MSU-IACUC

1996-2000: VMB Alternate for University Governance Council

1996-2000,

2003-2005: Chair, VMB Graduate Core Committee

1997: Co-Chair VMB Faculty Search Committee

1997, 2004: MAES Review Committee

1997: Member, Ph.D. Oversight Committee for the College of Agriculture

2000, 2005: Member, VMB Department Head Search Committee

2000-2005: Chair, VMB Equipment Support Committee

2000-2005: Member, VMB Lecture Series

2001: Chair, Bison and Wildlife Health Center Committee

2003: Chair, VMB Faculty Search Committee

2003: Member, Director of MSU ARC Search Committee

2006: Member, VMB Faculty Search Committee

2007: Chair, VMB Faculty Search Committee

2008: Member, College of Agriculture Promotion and Tenure Committee
2009: Chair, VMB Faculty Search Committee
2010-2012: MSU-AACUC
2010-2012: MSU Research Council
2011: Member, IMID Faculty Search Committee

PROFESSIONAL SOCIETY MEMBERSHIP:

American Association for the Advancement of Science, 1990
American Peptide Society, 1990
American Association of Immunologists (Elected 1991)
Society for Mucosal Immunology, 1992
Council for High Blood Pressure Research - American Heart Association, 1994
American Society for Microbiology, 1994
Society for Leukocyte Biology, 2012

SYMPOSIA:

Invited to give 53 presentations on our research in infectious diseases, mucosal vaccines, and autoimmunity.

DEPARTMENT OF COLLOQUIA AND SEMINARS:

Invited to speak at 38 universities on our research in infectious diseases, mucosal vaccines, and autoimmunity.

PUBLICATIONS:

1. Frank, L., Neriishi, K., Sio, R., and **Pascual, D.** 1982. Protection from paraquat-induced lung damage and lethality in (adult) rats pretreated with clofibrate. *Toxicol. Appl. Pharmacol.* 66:269-277.
2. **Pascual, D.W.** 1986. Ligand binding by murine monoclonal IgM antibodies. Master's thesis. Univ. of Miss. Med. Ctr.
3. Garrett, L.R., **Pascual, D.W.**, Clem, L.W., and Cuchens, M. 1987. Conformational changes in the DNA of hybridoma cells from pristane treated mice. *Chem.-Biol. Interactions* 61:249-263.
4. **Pascual, D.W.** 1987. Ligand binding by proteolytic fragments derived from monoclonal IgM antibodies. Doctoral dissertation. Univ. of Miss. Med. Ctr.
5. **Pascual, D.** and Clem, L.W. 1988. Ligand binding by murine IgM antibodies: Intramolecular heterogeneity exists in certain, but not all, cases. *Mol. Immunol.* 25:87-94.
6. Bost, K.L. and **Pascual, D.W.** 1988. Antibodies against a peptide sequence within the HIV envelope protein crossreacts with human interleukin-2. *Immunol. Invest.* 17:577-586.
7. **Pascual, D.W.** and Bost, K.L. 1989. Anti-peptide antibodies recognize anti-substance P antibodies in an idiotypic fashion. *Peptide Research* 2:207-212.

8. **Pascual, D.W.**, Blalock, J.E., and Bost, K.L. 1989. Anti-peptide antibodies which recognize a lymphocyte substance P receptor. *J. Immunol.* 143:3697-3702.
9. **Pascual, D.W.** and Bost, K.L. 1990. A pair of peptides encoded by the same RNA but read in the 5'-3' or 3'-5' direction are antigenically similar as determined using monoclonal antibodies. *Peptides: Chemistry, Structure, and Biology*, J.E. Rivier and G.R. Marshall, ed., ESCOM Science, Leiden, Netherlands, pp. 740-741.
10. **Pascual, D.W.** and Bost, K.L. 1990. Substance P production by P388D1 macrophages: a possible autocrine function for this neuropeptide. *Immunology* 71:52-56.
11. **Pascual, D.W.**, Jin, H., Bost, K.L., and Oparil, S. 1990. Interleukin-2 does not attenuate hypertension in spontaneously hypertensive rats. *Hypertension* 16:468-471.
12. **Pascual, D.W.** and Bost, K.L. 1990. 5'-3' and 3'-5' translation of the same RNA results in hydrophatically similar peptides that are antigenically related. *Immunol. Invest.* 19:421-433.
13. Bost, K.L., Clarke, B.L., Xu, J., Kiyono, H., McGhee, J., and **Pascual, D.W.** 1990. Modulation of IgM secretion and heavy chain mRNA expression in CH12.LX.C4.5F5 B cells by adrenocorticotrophic hormone. *J. Immunol.* 145:4326-4331.
14. **Pascual, D.W.**, Xu-Amano, J., Kiyono, H., McGhee, J., and Bost, K.L. 1991. Substance P acts directly upon cloned B lymphoma cells to enhance IgA and IgM production. *J. Immunol.* 146:2130-2136.
15. van Ginkel, F.W., **Pascual, D.W.**, and Clem, L.W. 1991. Proteolytic fragmentation of channel catfish antibodies. *Develop. Comp. Immunol.* 15:41-51.
16. McGhee, J.R., Beagley, K.W., Fujihashi, K., Taguchi, T., **Pascual, D.W.**, Bost, K.L., Xu, J., Lue, C., Aicher, W.K., McGee, D.W., Eldridge, J.H., Mestecky, J., and Kiyono, H. 1991. T helper subsets, cytokines, growth factors, and neuropeptides which regulate the mucosal immune system. In *Frontiers of Mucosal Immunology Vol. I*, Tsuchiya et al. (eds), Elsevier, Excerpta medica, Amsterdam pp. 75-82.
17. **Pascual, D.W.**, Bost, K.L., Xu-Amano, J., Kiyono, H., and McGhee, J.R. 1991. The regulation of antibody responses by mini-cytokines. *Acta Neurologica* 13:343-349.
18. **Pascual, D.W.**, McGhee, J.R., Kiyono, H., and Bost, K.L. 1991. Neuroimmune modulation of lymphocyte function: I. Substance P enhances immunoglobulin synthesis in LPS activated murine splenic B cell cultures. *Inter. Immunol.* 3:1223-1229.
19. Pascual, V. H., Oparil, S., Eldridge, J. H., Jin, H., Bost, K. L., and **Pascual, D. W.** 1992. Spontaneously hypertensive rat: lymphoid depression is age-dependent and mediated via a mononuclear cell subpopulation. *Amer. J. Physiol.* 262:R1-R7.
20. **Pascual, D. W.** and Clem, L.W. 1992. Low temperature pepsin proteolysis: An effective procedure for mouse IgM F(ab')₂ fragment production. *J. Immunol. Methods* 146:249-255.
21. Bost, K.L. and **Pascual, D.W.** 1992. Substance P: A late-acting B lymphocyte differentiation factor. *Amer. J. Physiol.* 262: C537-C545.
22. **Pascual, D.W.**, Bost, K.L., Xu-Amano, J., Kiyono, H., and McGhee, J.R. 1992. The cytokine-like action of substance P upon B cell differentiation. *Regional Immunol.* 4:100-104.
23. Bost, K.L., Breeding, S.A.L., and **Pascual, D.W.** 1992. Modulation of the mRNAs encoding

- substance P and its receptor in rat macrophages by LPS. *Regional Immunol.* **4**:105-112.
24. **Pascual, D. W.**, Pascual, V. H., Bost, K. L., McGhee, J. R. and Oparil, S. 1993. Nitric oxide mediates immune dysfunction in the spontaneously hypertensive rat. *Hypertension* **21**:185-194.
 25. **Pascual, D. W.**, Stanisiz, A. M., and Bost, K. L. 1994. Functional aspects of the peptidergic circuit to mucosal immunity. Cellular Basis of Mucosal Immunity, Section B: Cells, Regulation and Specificity in the Mucosal Immune System Inductive Sites, P. L. Orga, J. Mestecky, M. E. Lamm, W. Strober, J. R. McGhee, and J. Bienenstock, ed., Academic Press, Inc., San Diego, CA, Chap. 17., pp. 203-216.
 26. **Pascual, D. W.**, Kiyono, H., and McGhee, J. R. 1994. The enteric nervous and immune systems: interactions for mucosal immunity and inflammation. *ImmunoMethods* **5**:56-72.
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Abstracts

Published 151 abstracts for meetings.

PATENTS:

Patent Number **7,910,113** issued March 27, 2011 for “**Tolerizing Agents.**” Described herein is the development of fusion proteins useful for inducing tolerance in a subject. In particular embodiments, the tolerizing agents are useful for influence autoimmune, inflammatory, and/or allergic reactions. Example tolerizing fusion proteins contain a targeting portion (which delivers the fusion protein) and a toleragen or allergen or other antigen to which tolerance is desired in a subject. In particular examples, it is demonstrated that a **protein sigma1 fusion protein**, when administered orally, facilitates systemic and mucosal tolerance. Also described is the nasal delivery of fusion proteins, for instance for restoring immunogenicity.

MASTER STUDENT COMMITTEES

Chair, Kathryn Holderness, Master’s student (2006-2012), and completed thesis: “**Identification of Immunodominant T Cell Epitopes from Enterotoxigenic *E. coli* Colonization Factor Antigen I (CFA/I) Responsible for T Helper Cell Cytokines,**” in April, 2012, IMID, Montana State University, Bozeman, MT.

Member, Jeff Holderness, M.S., student (2005-2008), and completed thesis in December, 2007, VMB, Montana State University, Bozeman, MT.

DOCTORAL STUDENT COMMITTEES

- Chair, Keri L. Csencsits-Smith, Ph.D., student (1996-2001), and completed dissertation: **“Importance of L-Selectin in the Induction of Immune Responses in the Upper Respiratory Tract,”** Dec., 2001, VMB, Montana State University, Bozeman, MT. **Current Appointment:** Assistant Professor, University of Texas Health Science Center at Houston.
- Chair, Sang Mu Jun, Ph.D., student (1998-2005), and completed dissertation: **“Vaccine Platform for Infection or Autoimmune Diseases Using an ETEC Fimbrial Scaffold,”** in March, 2009, VMB, Montana State University, Bozeman, MT. **Current Appointment:** Postdoctoral Research Associate (2009-present), Montana State University, Bozeman, MT.
- Chair, Agnieszka Rynda-Apple, Ph.D., student (2003-2008), and completed dissertation: **“Low Dose Tolerance Vaccine Platform, Reovirus Protein Sigma 1 and Treatment of Autoimmunity,”** in Sept., 2008, VMB, Montana State University, Bozeman, MT. **Current Appointment:** Postdoctoral Fellow, Veterinary Molecular Biology, Montana State University.
- Chair, Andrew Nelson, Ph.D., student (2012-present), ID&P, College of Veterinary Medicine, University of Florida
- Member, Karen Sipes (Schmit), Ph.D., student (1994-1999), and completed dissertation in 1999, VMB, Montana State University, Bozeman, MT.
- Member, Eric Wilson, Ph.D., student (1994-2000), and completed dissertation in 2000, VMB, Montana State University, Bozeman, MT.
- Member, Jeff G. Leid, Ph.D., student (1995-2000), and completed dissertation in April, 2000, VMB, Montana State University, Bozeman, MT.
- Member, Lynnelle McNamee (Pittet), Ph.D., student (2001-2006), and completed dissertation in Dec., 2006, VMB, Montana State University, Bozeman, MT.
- External Member, Nyasha Chin’ombe, Ph.D., student, and completed dissertation in July, 2007, Institute of Infectious Disease and Molecular Medicine, University of Cape Town, South Africa.
- External Member, Claire N. Gower, Ph.D., student (2006-2009), and completed dissertation in March, 2009, Ecology, Montana State University, Bozeman, MT.
- External Member, Daniel W. Mielcarz, Ph.D., student (2005-2010), and completed dissertation in May, 2010, Department of Microbiology & Immunology, Dartmouth Medical School, Lebanon, NH.
- Member, Jeff Holderness, student (2008-2012), and completed dissertation in April, 2012, IMID, Montana State University, Bozeman, MT.
- Member, Andrew Ramstead, student (2008-present), IMID, Montana State University, Bozeman, MT.