

CURRICULUM VITAE

EILEEN MCMAHON MCQUADE

PERSONAL

Work Address: Westmont College
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Other Names: Eileen Joan McMahon

EDUCATION/TRAINING

1992 - 1996 B.S., Marine Biology, Eckerd College, St. Petersburg, Florida

1996 - 2001 Ph.D., Department of Microbiology and Immunology, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina (advisor: Glenn K. Matsushima; dissertation title: *Macrophage/microglial recruitment and chemokine function in CNS demyelination*)

2002 - 2004 Postdoctoral Research Fellow, Northwestern University, Chicago, IL (advisor: Stephen D. Miller)

2009 Participant, 50th Annual Short Course on Medical and Experimental Mammalian Genetics, the Jackson Laboratory, Bar Harbor, Maine

ACADEMIC POSITIONS

2002 **Instructorship**, Westmont College, Santa Barbara, California.

2004-2010 **Assistant Professor**, Westmont College, Santa Barbara, California.

2010-present Granted tenure and promoted to **Associate Professor**, Westmont College

2010-2011 **Visiting Assistant Professor**, Diabetes Center, University of California, San Francisco, CA (also Summer 2012)

HONORS AND AWARDS:

1998-2001 University of North Carolina-Chapel Hill Graduate NIH Training Grant

2002-2003 Northwestern University Postdoctoral NIH Training Grant

2005 Westmont College Professional Development Grant

2007 Westmont College Professional Development Grant

2007 Westmont College Wandering Scholar Grant

2008 AAI Junior Faculty Travel Award to Experimental Biology Conference

2009 Westmont College Professional Development Grant

2009 Westmont College Faculty Research Award

2012 Westmont College Outstanding Teacher of the Year for Natural Sciences Division

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Sigma Xi (1996-2004)
American Association of Immunologists (2004-present)
American Scientific Association (2004-present)
Phi Kappa Phi (2009-present)

PUBLICATIONS (undergraduate co-authors underlined>

- 1.) Wu, Y.P., **McMahon, E.J.**, Kraine, M.R., Tisch, R., Meyers, A., Frelinger, J., Matsushima, G.K., Suzuki, K. (2000) Distribution and characterization of GFP(+) donor hematogenous cells in twitcher mice after bone marrow transplantation. *American Journal of Pathology* 156(6):1849-54.
- 2.) Serody, J.S., Burkett, S.E., Panoskaltis-Mortari, A., Ng-Cashin, J., **McMahon, E.J.**, Matsushima, G.K., Lira, S.A., Cook, D.N., Blazar, B.R. (2000) T-lymphocyte production of macrophage inflammatory protein-1 α is critical to the recruitment of CD8 (+) T cells to the liver, lung, and spleen during graft-versus-host disease. *Blood* 96(9):2973-80.
- 3.) Scott, R.S., **McMahon, E.J.**, Pop, S.M., Carrichio, R., Reap, E.A., Cohen, P.J., Earp, H.S., Matsushima, G.K. (2001) Phagocytosis and clearance of apoptotic cells is mediated by Mer. *Nature* 411:207-211.
- 4.) **McMahon, E.J.**, Cook, D.N., Suzuki, K., Matsushima, G.K. (2001) Absence of macrophage inflammatory protein-1 α delays CNS demyelination in the presence of an intact blood-brain barrier. *Journal of Immunology*, 167 (5): 2964-2971.
- 5.) Wu, Y.P., **McMahon, E.J.**, Matsuda, J., Suzuki, K., Matsushima, G.K., Suzuki, K. (2001) Expression of immune-related molecules is downregulated in twitcher mice following bone marrow transplantation. *Journal of Neuropathology and Experimental Neurology*, 60: 1062-1074.
- 6.) **McMahon, E.J.**, Suzuki, K., Matsushima, G.K. (2002) Peripheral macrophage are recruited across an intact blood-brain barrier during primary CNS demyelination. *Journal of Neuroimmunology*, 130: 32-45.
- 7.) Yagi T., **McMahon E.J.**, Takikita S., Mohri I., Matsushima G.K., Suzuki K. (2004) Fate of donor hematopoietic cells in demyelinating mutant mouse, twitcher, following transplantation of GFP+ bone marrow cells. *Neurobiology of Disease*, 16(1): 98-109.
- 8.) **McMahon, E.J.**, Bailey, S.L., Castenada, C.V., Waldner, H., Miller, S.D. (2005) Epitope spreading initiates in the CNS in two mouse models of multiple sclerosis. *Nature Medicine*, 11(3):335-339.
- 9.) **McMahon, E.J.**, Smith-Begolka, W., Miller, S.D. (2005) Cytokines and Immune Regulation in the Nervous System. In R. Ransahoff, and E. Benveniste (eds), *Cytokines in the CNS*, 2nd Edition. (pp137-162). Boca Raton: Taylor and Francis.
- 10.) Plant, S.R., Wang, Y., Vasseur, S., Thrash, J.C., **McMahon, E.J.**, Bergstralh, D.T., Arnett, H.A., Miller, S.D., Carson, M.J., Iovanna, J.L., Ting, J.P. (2005) Upregulation of the stress-associated gene p8 in mouse models of demyelination and in multiple sclerosis tissues. *Glia* 53(5): 529-537.
- 11.) Bailey, S.L., Carpentier, P.A., **McMahon, E.J.**, Begolka, W.S., Miller, S.D. (2006) Innate and adaptive immune responses of the central nervous system. *Critical Reviews in Immunology*, 26(2): 149-188.
- 12.) **McMahon, E.J.**, Bailey, S.L., Miller, S.D. (2006) CNS dendritic cells: Critical participants in CNS inflammation? *Neurochemistry International*, 49(2): 195-203.
- 13.) Bailey, S.L., Schreiner, B., **McMahon, E.J.**, Miller, S.D. (2007) CNS myeloid DCs presenting endogenous myelin peptides “preferentially” polarize CD4⁺ T_h17 cells in relapsing EAE. *Nature Immunology*, 8(2): 172-180
- 14.) Miller, S.D., **McMahon, E.J.**, Schreiner, B., and Bailey, S.L. (2007) Antigen Presentation in the CNS by myeloid dendritic cells drives progression of relapsing-remitting experimental autoimmune encephalomyelitis. *Annals of the New York Academy of Sciences*, 1103:179-191

- 15.) Balabanov, R., Strand, K., Goswami, R., **McMahon, E.J.**, Begolka, W., Miller, S.D., and Popko, B. (2007) Interferon-gamma-oligodendrocyte interactions in the regulation of experimental autoimmune encephalomyelitis. *Journal of Neuroscience*, 27(8): 2013-2024
- 16.) Adipue, I.A., Wilcox, J.T., King, C., Rice, C.A.Y., Shaum, K.M., Suard, C., ten Brink, E., Miller, S.D., **McMahon, E.J.** (2011) Characterization of a novel and spontaneous mouse model of inflammatory arthritis. *Arthritis Research and Therapy* 13:R114
- 17.) Doan, V., Kleindiest, A.M., **McMahon, E.J.**, Long, B.L., Matsushima, G.K., Taylor, L.C. (2013) Abbreviated exposure to cuprizone is sufficient to induce demyelination and oligodendrocyte loss. *Journal of Neuroscience Research*, 91(3): 363-73.
- 18.) Gardner, J.M., Metzger, T.C., **McMahon, E.J.**, Krawisz A.K., Lu W., Price, J.D., Johannes K.P., Tarbell, K.V., Anderson, M.S. Prevention of autoimmune diabetes by self-antigen expression in extrathymic Aire-expressing cells. Submitted to *Nature Immunology*.

PRESENTATIONS (undergraduate co-authors underlined)

- 1995 **Eleventh Biennial Conference on the Biology of Marine Mammals**, Orlando, Florida. Characterization and expression of the interleukin-2 gene from the Florida manatee, *Trichechus manatus latirostris*. E.J. McMahon, M.A. King, T.L. Ness, M.E. Cashman, W.G. Bradley, J.E. Reynolds, and W.B. Roess. (Poster presentation)
- 1999 **Keystone Symposia: Effectors of Inflammation in the CNS**, Taos, NM. Macrophage inflammatory protein-1 α is a mediator of macrophage/microglia accumulation and histopathology in cuprizone-induced demyelination. E.J. McMahon, K. Suzuki, D.N. Cook, and G.K. Matsushima. (Poster presentation)
- 2000 **Midwinter Conference of Immunologists**, Asilomar, CA. Chemokines and chemokine receptors in cuprizone-induced demyelination. E.J. McMahon, K. Suzuki, D.N. Cook, N. Maeda, J.S. Serody, and G.K. Matsushima. (Poster presentation)
- 2001 **International Neuroimmunology Symposium**, Edinburgh, U.K. Peripheral macrophage recruitment during CNS demyelination in the context of an intact blood-brain barrier. E.J. McMahon (Invited oral presentation)
- 2002 **Westmont College NBS Seminar Series**. Santa Barbara, CA. Leukocyte recruitment and chemokine function in two murine models of CNS demyelination. (Oral presentation)
- 2002 **FASEB Summer Conference on Autoimmunity**, Saxons River, VT. Tracking Myelin-specific T cells during epitope spreading in murine models of multiple sclerosis. E.J. McMahon and S.D. Miller (Poster presentation)
- 2003 **Autumn Immunology Conference**, Chicago, IL. Epitope spreading occurs in the CNS and not in the periphery in 2 murine models of multiple sclerosis. E.J. McMahon, G. Hoffmann, and S.D. Miller (Oral and Poster presentation)
- 2004 **4th Annual Conference of FOCIS**, Montreal, Canada. Epitope spreading occurs in the CNS and not in the periphery in 2 murine models of multiple sclerosis. (Poster and invited oral presentation)
- 2004 **UCSB Molecular and Cellular Biology Program Research Seminar**. Epitope Spreading in Murine Models of Multiple Sclerosis: Is the brain just one big lymph node? (Oral Presentation)
- 2005 **FASEB Summer Conference on Autoimmunity**, Saxons River, VT. Characterization of a novel mouse strain that spontaneously develops arthritis: a potentially new model of rheumatoid arthritis. J.F. Morrow, J.T. Wilcox, H.L. Parrish, W. Iba, S.D. Miller, E.J. McMahon (Poster presentation)
- 2007 **Midwinter Conference of Immunologists**, Asilomar, CA. Characterization of a potentially new murine model of spontaneous, immune-mediated arthritis. J. Wilcox, C. King, J. Mayer, K. Holshausen, S.D. Miller, and E.J. McMahon (Poster presentation)
- 2008 **The American Association of Immunologists Conference at Experimental Biology 2008**, San Diego, CA. Characterization of the immune response in a new murine model of autoimmune arthritis. E.J. McMahon, I. Adipue, J. Wilcox, C. Suard, and J. Nolte (Poster presentation)

- 2008 **Dean's Research Seminar Series**, University of Florida, Gainesville, FL. Another murine model of inflammatory arthritis: How does it compare and what can it teach us. (Invited lecture). Cancelled because of Tea Fire.
- 2008 **Junior Biology Seminar Series**, Eckerd College, St. Petersburg, FL. Animal models of arthritis. (Invited lecture). Cancelled because of Tea Fire
- 2009 **50th Annual Short Course on Medical and Experimental Mammalian Genetics Symposium**, The Jackson Laboratory, Bar Harbor, ME. Characterization of a novel and spontaneous mouse model of inflammatory arthritis. I. Adipue, J. Wilcox, J. Stephens, C. Rice, C. King, E. ten Brink, E. Glover, S. D. Miller, and E. J. McMahon (Poster Presentation)
- 2009 **Research Seminar**, Feinberg School of Medicine, Northwestern University, Chicago, IL. The IJ line: A novel and spontaneous mouse model of inflammatory arthritis. (Invited lecture).
- 2010 **Research Seminar**, Anderson-Bluestone joint lab meeting, University of California, San Francisco, CA. The IJ line: A novel and spontaneous mouse model of inflammatory arthritis. (Invited lecture)
- 2011 **The UCSF Diabetes Center Seminar Series**, San Francisco, CA. Aire expression in human lymph nodes: a comparison between type-1 diabetics and healthy controls. (Invited talk)
- 2011 **The American Association of Immunologists Conference**, San Francisco, CA. Aire expression in human lymph nodes: a comparison between type-1 diabetics and healthy controls. (Poster presentation)
- 2012 **nPOD Annual Meeting**, Miami, FL. Aire expression in human spleen and lymph node: a comparison between type-1 diabetics and healthy controls. E.J. McMahon, T. Metzger, M.S. Anderson (invited talk & poster presentation)
- 2013 **Research Seminar**, Azusa Pacific University, Azusa, CA. Something new in the Aire? Aire expression and its possible role in autoimmune disease (Invited lecture)

UNDERGRADUATES SUPERVISED IN RESEARCH & THEIR PRESENTATIONS:

Julia Morrow (Fall 2004, Spring 2005): Major Honors Project

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2005. "Characterizing clinical disease in a novel strain of spontaneous arthritis in mice"
- Entered University of Minnesota Medical School in 2007

Laurraine Gereige (Spring 2005)

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2005. "Detecting the Presence of Immunoglobulins in Arthritic and Nonarthritic Mice"

Joel Wilcox (Summer 2005, Fall 2006, Fall 2007)

- Presented poster at *Celebration of Summer Research Symposium*, Westmont College, Sept. 2005. "Quantitation of serum immunoglobulin levels in a new mouse model of rheumatoid arthritis"
- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2006. "Transfer of immune cells to induce rheumatoid arthritis in mice"
- Entered Master's program in Technical and Science Writing at Miami University in Ohio in 2008

Heather Parrish (Summer 2005)

- Presented poster at *Celebration of Summer Research Symposium*, Westmont College, Sept. 2005. "Quantitating the number of antibody-producing B cells in arthritic and non-arthritic mice using ELISPOT"

Kirsten Holshausen (Spring, 2005, Summer 2006, Fall 2006, Spring 2007): Major Honors Project

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2006. "Continuing Study of Rheumatoid Arthritis in Mice"

- Presented poster at *Celebration of Summer Research Symposium*, Westmont College, Sept. 2006. “Quality Management and accountability in humanitarian assistance: Applying a decade of lessons to short-term medical missions”
- Research technician at Institute for Genome Sciences and Policy, Duke University in 2007

Cody King (Fall 2006)

- Entered Creighton Medical School 2010

Iris Adipue (Summer 2007)

- Presented poster at *Celebration of Summer Research*, Westmont College, Sept. 2007. “Characterization of the immune response in a new mouse model of rheumatoid arthritis using flow cytometry”
- Poster accepted for *Southern California Conference for Undergraduate Research*, California State University at Los Angeles, Nov. 2007
- Entered Medical College of Wisconsin in 2010

Cory Suard (Fall 2007, Spring 2008)

- Presented poster at *West Coast Biological Sciences Undergraduate Research Conference*, Point Loma Nazarene University, April 2008. “Determination of rheumatoid factor levels in arthritic mice using ELISA”. Co-authored with Julie Nolte
- Poster also presented at *Spring Undergraduate Research Symposium*, Westmont College, April 2008.
- Entered Loma Linda Medical School in 2008

Julie Nolte (Spring 2008)

- Presented poster. See above
- Entered University of Washington School of Medicine in 2010

Carolyn Rice (Spring 2008)

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2008. “Correlation between arthritis and inflammatory bowel disease in mice”
- Entered medical school in Israel in 2009

Elri ten Brink (Summer 2008)

- Presented poster at *Celebration of Summer Research*, Westmont College, Sept. 2008. “Confirming irritable bowel disease in a strain of arthritic mice”

Jenna Stephens (Summer 2008)

- Presented poster at *Celebration of Summer Research*, Westmont College, Sept. 2008. “Characterizing the immune response in a murine model of inflammatory arthritis”

Lauren Brown (Fall 2008, Spring 2009)

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2009. “Increased T cell proliferation in arthritic mice compared to non-arthritic mice”. Co-authored with Eva Glover
- Entered University of Southern California Medical School in 2009

Eva Glover (Spring 2009)

- Presented poster. See above.

Matthew Combs (Fall 2009-Spring 2010)

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2010 and *West Coast Biological Sciences Undergraduate Research Conference*, Santa Clara, CA. April 2010 “Disregulation of thymic development in Inherited Inflamed Joint (IJJ) mice, a new spontaneous model of inflammatory arthritis.” Co-authored with Katherine Shuam
- Entered Loma Linda Medical School in 2011

Katherine Shuam (Fall 2009-Spring 2011)

- Completed Major Honors

- Presented posters at *Celebration of Summer Research*, Westmont College, Sept. 2010 and *American Association of Immunologists Conference* (2011), San Francisco, CA. “The Role of T cells in the Inherited-Inflamed Joints model of inflammatory arthritis”
- Entered University of Colorado Medical School in 2011

David Thompson (Fall 2011, Fall 2012-Spring 2013)

- Completed Major Honors
- Gave oral presentation at *West Coast Biological Sciences Undergraduate Research Conference*, Point Loma, CA. April 2013. “T cell activation and development in the IJ mouse, a strain that spontaneously develops a rheumatoid arthritis-like disease”. Won best session talk award.
- Presented poster, April 2013. See below.
- Entered Creighton University Medical School in 2013

Kelly Egusa (Fall 2011-Spring 2012)

- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2012. “*Flow cytometric analysis of T cell composition in the blood Inherited Inflamed Joints (IJ) mice*”. Co authored with Philip Sanchez

Philip Sanchez (Spring 2012-Spring 2013)

- Presented poster, April 2012. See above.
- Presented poster at *Spring Undergraduate Research Symposium*, Westmont College, April 2013. “*Prevalence of Double Negative T cells and thymic atrophy occur before clinical symptoms in the IJ model of inflammatory arthritis*”. Co authored with Brooke Eusebio and David Thompson.

Brooke Eusebio (Fall 2012-Spring 2013)

- Presented poster, April 2013. See above.

TEACHING EXPERIENCE

Non-Majors, Non-disciplinary Courses:

APP-090 Inoculum

Non-Majors, Disciplinary Courses:

LS-012 Introduction to Life Science

BIO-012 Human Physiology

Majors, Disciplinary Courses:

BIO-110 Microbiology (Co-taught with Frank Percival)

BIO-114 Genetics lecture and lab

BIO-130 Cell Biology lecture and lab

BIO-132 Molecular Biology lecture and lab

BIO-155: Infectious Disease and Immune Response (Co-taught with Steve Julio)

BIO-162 Neuroscience (Co-taught with Tom Fikes)

Tutorials, Seminars, Research:

BIO-194 Bioethics Tutorial on Embryonic Stem Cells

BIO-195 Seminar in Biological Literature

BIO-198 Research

WESTMONT COLLEGE INSTITUTIONAL SERVICE

Committees & Taskforces

Chemistry Faculty Search Committee	2005-2006
Biology Faculty Search Committee	2005-2006
Institutional Review Board	2005-2006
Student Life Committee (chair for '09-present)	2006-2007, 2009-present
Program Review Committee	Spring 2007
Resident Director Search Committee	Spring 2007
General Education Committee	Fall 2008
Biblical & Theological Foundations for Diversity Taskforce	2009-2010
Faculty Council	2011-present
Psychology Faculty Search Committee	2011-2012
CIP Committee (a Strategic Planning Track of Work)	2013-present

Administrative service

Dept. Representative for Secondary Education Advisory Committee	2005-2007
Department Assessment Coordinator	Fall 2006-Spring 2007
Coordinator, NBS Seminar Series	Fall 2006-2010
Inoculum Program Co-director	Summer 2007-present
Department of Biology Chair	2011-present
Faculty Vice-Chair	2012-2013
Strategic Planning Committee	2012-2013
President's Council	2012-2013

Invited service

Preview Days Faculty Panel	2005, 2006
Panel Chair, Conference in the Liberal Arts, <i>Beyond Two Cultures: Science as Liberal Arts</i>	Spring, 2005
Faculty Panelist for Colloquy for Accepted Students	April 2005
Mini-class Parent's Weekend: <i>HIV/AIDS: The Science and Societal Impact</i>	April 2006
Faculty Participant in Search for Director of Leadership and Learning	June 2006
Faith-Learning Workshop Presenter: <i>When Science and Ethics Meet</i>	Oct 2006, Mar 2010
Panelist for Faculty Exchange: <i>Survival, Sanity, and Success: "Getting a Life" at a Christian Liberal Arts College</i>	Oct 2006
Horizon Editorial on Embryonic Stem Cells	Nov 2006
Led Prayer in Chapel	Nov 2006
Presentation at Westmont Urban Program: <i>AIDS: The Science and Societal Impact</i>	April 2007
Presentation to Board of Trustees: <i>Science Research at Westmont</i>	May 2007
Mini-class Parent's Weekend: <i>Building Better Babies: The Hopes & Fears of Genetic Engineering</i>	Sept 2007
Pickle Address Speaker	Dec 2007
Spring Sing Judge	April 2009
Chapel Speaker	April 2009

Speaker at <i>Celebration of Summer Research</i>	Sept 2009
Wrote Annual Fund letter to Alumni	Sept 2009
Panelist, Tea Fire Reflection	Nov 2009
Faculty Devotional at Faculty Meeting	Jan 2010
Spoke at Urban Program on Vocation	Nov 2010
Panelist: <i>Awakening the Moral Imagination</i>	Oct 2012
Respondent, Gayle Beebe's Westmont Downtown Lecture on Leadership	Feb 2013

Volunteer service

Westmont in the Arts Faculty Sponsor	2004-2005
Tuesday with Morals Discussion Leader	Spring 2005, Fall 2006, Spring 2007, Spring 2010
Attendant, Presidential Scholars Breakfast	Aug 2005
Admitted Students Days: Faculty Small Group Leader	2006, 2009, 2010
Co-hosted 1 st year Progressive Dessert	Aug 2006, 2007
Co-coordinator for Faculty Prayer Meeting	Fall 2006-present
Faculty participant in Intercultural Programs Department Audit	Jan 2007
Westmont Women's Retreat, Small Group Leader	Sept 2009

CHURCH AND COMMUNITY SERVICE

SB Community Church Nursery Worker	2004-present
2nd-grade Teaching Team Member, SB Community Church Retreat	April 2006
Pre-K Summer Sunday School Teacher	Summer 2006
United Way, <i>Day of Caring</i> , Volunteer	Sept 2006
Panelist, Science and Faith Panel, High School Youth Group, SB Community Church	Oct 2006
Panelist, God and Science Forum, 7-5-9 Series, SB Community Church	Nov 2006
Home Group Leader, SB Community Church	2007-2009
Arthritis Foundation, SB chapter, Event Volunteer	May 2007-2010
4-week series on Science and Faith for Adult Sunday School, SB Free Methodist Church	Nov 2007
Architectural Review Board member, Las Barrancas Homeowners Association	Fall 2008-2010
Volunteer for HabitatWorks	Fall 2008
Nursery Supervisor, SB Community Church	July 2009-2010
Keynote Speaker at Women's Council Annual Dinner, First Presbyterian Church of Santa Barbara	April 2013