Joshua J. Michel

[redacted]

[redacted]
jjm80@pitt.edu
joshua.michel@chp.edu

Educational Background / Specialized Training / Awards
University of Minnesota: Bachelor of Arts in Physics (Graduated May 2011)
American Association of Immunologists: Immunology (2005)
University of Minnesota (June 1998): Harry and Viola St. Cyr Scholarship in Physics

Laboratory Techniques and Expertise
Flow Cytometry, ELISA, Luminex, Western Blotting, RT-PCR (multicolor), PAGE, Cell Culture (Bacterial and Mammalian), IHC, Fluorescent Microscopy, Dissection (Mouse), Tissue Processing (Human, Primate, Mouse, Rat), Cryopreservation, Instrument Repair

Computer Skills and Programming
Flow Cytometry (FlowJo, FACSDiVa, Summit, FlowLogic), Object Oriented Programming (JAVA, C++), Web Design (HTML, PHP, SQL), Presentation (Microsoft PowerPoint, Open Office Suite), Statistical Analysis (SPSS, SAS, PRISM, Minitab, R), Document Creation (Adobe Creative Suite, Microsoft Publisher, Open Office Suite)

Work Experience

Sept. 2016 – present:

University of Pittsburgh – School of Medicine: Rangos Research Flow Core

Senior Flow Core Technician

Consultation and design of Flow Cytometry assays, Flow Cytometry instructor for PhD students / research fellows / faculty, conduct of research investigations, instrument maintenance, experiment design, consultation on external projects, production of diagrams for publications and grant proposals

Jan. 2009 – Sept. 2016:

University of Pittsburgh – School of Medicine: Pediatric Rheumatology

Lab Manager / Study Coordinator (Research IV)

Conduct of research investigations, experiment design, consultation on external projects, management of laboratory data and cryobanks, coordination of research protocols involving human subjects, coordination of animal specimen collection from Mayo Clinic (Rochester, MN), coordination of primate specimen collection and processing, trainer for X-Rad 160 and 320 X-Ray irradiators

Flow Core Technician / Experimental Design Consultant: Rangos Research Flow Core

Cytometer operateration, Flow Cytometry instructor for PhD students / research fellows / faculty, design of 14+ color Flow Cytometry assays, production of diagrams for publications and grant proposals

June 2004 – Dec. 2008:

Children's Hospital of Pittsburgh of UPMC – Pediatric Rheumatology

Research Technician II – III, Study Coordinator

Conduct of research investigations and experiment design, management of laboratory data and cryobank, coordination of research protocols involving human subjects, coordination of animal specimen collection from Mayo Clinic (Rochester, MN), instructor for PhD students / research fellows on instrumentation and data analysis, design of 8 color Flow Cytometry assays, production of diagrams for publications and grant proposals

Nov. 2003 – March 2004:

Mayo Clinic – Rochester, MN – Rheumatology Research

Research Technologist

Conduct of research investigations, cell culture, tissue culture, blood and tissue processing for live cell assays, cryopreservation and tissue banking, FACS staining / cytometer operation, prepared lab for move from Mayo Clinic (Rochester, MN) to Children's Hospital of Pittsburgh

Jan. 2000 – Jan. 2002:

University of Minnesota Twin Cities – Physics Department

Teaching Assistant

Management of physics demonstration equipment, preparation of physics demonstrations, equipment repair, database management, creation of digital movies of demonstrations for web access, handling of radioactive specimens for demonstration

Summer 1999, 2000:

University of Minnesota Twin Cities – Plant Pathology

Laboratory Assistant

Arbuscular Endomycorhizae project: Maintenance of plant and soil specimens, identification of fungal spores, staining of endomycorhizae infected grass roots

Jan. 1999 – June 2001:

University of Minnesota Twin Cities – Academic Tutor

Academic Tutor, Athletics Department

Mathematics through multi-variable calculus, Biology, Physics, Chemistry

Peer-reviewed Publications

Griffin P, Michel JJ, DeVallejo AN. "Diversity of CD28null T Cells in the Elderly: A Glimpse in a Biological Adaptation of Aging." Handbook of Immunosenescence. November 2018. DOI:10.1007/978-3-319-64597-1_87-1

Ferguson ID, Griffin P, Michel JJ, Yano H, Gaffen SL, Mueller RG, Dvergsten JA, Piganelli JD,Rosenkranz ME, Kietz DA and Vallejo AN. (2018.) "T Cell Receptor-Independent, CD31/IL-17A-DrivenInflammatory Axis Shapes Synovitis in Juvenile Idiopathic Arthritis." *Front. Immunol.* 9:1802. doi: 10.3389/fimmu.2018.01802.

Michel JJ, Griffin P and Vallejo Abbe N (2016). "Functionally Diverse NK-Like T Cells Are Effectors and Predictors of Successful Aging." *Front. Immunol.* 7:530. doi: 10.3389/fimmu.2016.00530.

Meghan E Fitzpatrick, Vikas Singh, Marnie Bertolet, Lorrie Lucht, Cathy Kessinger, Joshua Michel, Alison Logar, Renee Weinman, Deborah McMahon, Karen A Norris, Abbe N Vallejo, Alison Morris. "Relationships of pulmonary function, inflammation, and T-cell activation and senescence in an HIV-infected cohort." AIDS. 2014 Nov 13;28(17):2505-15. doi: 10.1097/QAD.0000000000000471.

Dvergsten JA, Mueller RG, Griffin P, Abedin S, Pishko A, Michel JJ, Rosenkranz ME, Reed AM, Kietz DA and Vallejo AN. "Premature cell senescence and T cell receptor-independent activation of CD8+ T cells in juvenile idiopathic arthritis." Arthritis Rheum. 2013 Aug;65(8):2201-10. doi: 10.1002/art.38015.

Griffin P, Michel JJ, Huysman K, Logar AJ, Vallejo AN. Integration of immunity with physical and cognitive function in definitions of successful aging. Aging Dis. 2012 Feb;3(1):34-50. Epub 2012 Feb 27.

Vallejo AN, Hamel DL Jr, Mueller RG, Ives DG, Michel JJ, Boudreau RM, Newman AB. NK-like T cells and plasma cytokines, but not anti-viral serology, define immune fingerprints of resilience and mild disability in exceptional aging. PLoS One. 2011;6(10):e26558. doi: 10.1371/journal.pone.0026558. Epub 2011 Oct 20.

He M, Kratz LE, Michel JJ, Vallejo AN, Ferris L, Kelley RI, Hoover JJ, Jukic D, Gibson KM, Wolfe LA, Ramachandran D,Zwick ME, Vockley J. "Mutations in the human SC4MOL gene encoding a methyl sterol oxidase cause psoriasisiform dermatitis, microcephaly and developmental delay." J Clin Invest. 2011 Mar;121(3):976-84. doi: 10.1172/JCI42650.

Vallejo AN, Michel JJ, Bale LK, Lemster BH, Borghesi L, Conover CA. "Resistance to age-dependent thymic atrophy in long-lived mice that have deficiency in pregnancy-associated plasma protein A." Proc Natl Acad Sci U S A. 2009 Jul 7;106(27):11252-7. doi: 10.1073/pnas.0807025106. Epub 2009 Jun 22.

Lemster BH*, Michel JJ*, Montag DT, Paat JJ, Studenski SA, Newman AB, Vallejo AN*. Induction of CD56 expression and TCR-independent activation of T cells with aging. J Immunol. 2008 Feb 1;180(3):1979-90.

Michel JJ*, Turesson C*, Lemster B, Atkins SR, Iclozan C, Bongartz T, Wasko MC, Matteson E, Vallejo AN. 2007. CD56-expressing T cells that have features of senescence are expanded in rheumatoid arthritis. Arthritis Rheum. 2007 Jan;56(1):43-57.

Abedin S, Michel JJ, Lemster B, Vallejo AN. 2005. Diversity of NKR expression in aging T cells and in T cells of the aged: The new frontier into the exploration of protective immunity in the elderly. Exp Gerontol. 2005 Jul;40(7):537- 48.

Published Peer-reviewed Abstracts

Vallejo, Ferguson ID, Griffin P, Dvergsten JA, Michel JJ, Rosenkranz ME, Kietz : "The local and systemic cytokine signatures of juvenile idiopathic arthritis are attributable to TCR-independent activation of two novel subsets of prematurely senescent t cells found in synovial fluid." Pediatric Rheumatology 2014 12 (Suppl 1):P35. doi:10.1186/1546-0096-12-S1-P35.

I. D. Ferguson, P. Griffin, J. Michel, D. Kietz, M. Rosenkranz, A. N. Vallejo. "OP0264 Upregulation of Cytokines in Juvenile Idiopathic Arthritis is Mediated Tcr-Independent Activation of T Cells." Annals of the Rheumatic Diseases 06/2014; 73(Suppl 2):161-161. DOI:10.1136/annrheumdis-2014-eular.5501

Ian D. Ferguson, Patricia Griffin, Joshua Michel, Daniel Kietz, Margalit Rosenkranz, Abbe N. Vallejo. “A113: TCR-independent Activation of T-cells Through CD31 Triggering as an Etiology of Cytokine Production in Juvenile Idiopathic Arthritis.” Arthritis and Rheumatology 03/2014; 66(S11). DOI:10.1002/art.38534
Meghan Fitzpatrick , Vikas K. Singh , Joshua Michel , Alison Logar , Michelle A. Busch , Renee Weinman , Lorrie Lucht , Cathy Kessinger , Jingxuan Li , Jing Wang , M. P. George , Deborah McMahon , Karen Norris , Abbe N. Vallejo , Alison Morris. “The Role Of Immune Aging In HIV-Associated COPD.” American Thoracic Society 2012 International Conference, May 18-23, 2012 San Francisco, California; 05/2012

Dvergsten JA., Mueller RG, Abedin S, Lemster BH, Pishko A, Michel JJ, et al. “Prevalence of Functionally Active, Senescent T Cells in Juvenile Idiopathic Arthritis [abstract].” Arthritis Rheum 2009;60 Suppl 10 :1313.

Hamel Jr DL, Michel JJ, Boudreau R, Newman AB, Vallejo AN. 2008. “Humoral fingerprints of health status in older adults.” Journal of the American Geriatrics Society 56:S161-S162 (Abstract #D8).

Montag DT, Lemster BH, Michel JJ, Koeske Z, Studenski SA, Vallejo AN. 2008. “CD56 is a functionally versatile immune receptor for aging T cells.” Journal of the American Geriatrics Society 56:S159 (Abstract #D2).

He M, Kratz LE, Michel JJ, VALLEJO AN, Ferris L, Kelley RI, Hoover J, Gibson KM, Vockley J. 2008. “Mutations in the SC4MOL gene cause autosomal recessive psoriasiform dermatitis, revealing a novel mechanism for the pathogenesis of psoriasis.” Molecular Genetics and Metabolism 93:234.

Lemster BH, Michel JJ, Montag DT, Paat J, Studenski SA, Newman AB, Vallejo AN. 2008. “Upregulation of CD56 expression and T-cell receptor (TCR)-independent activation of T cells with aging. FASEB Journal 22:662-11.

Hamel Jr DL, Michel JJ, Boudreau R, Newman AB, Vallejo AN. 2007. “Discrete plasma cytokine fingerprints, but not with anti-viral serology, define favorable health and physical functioning of exceptionally aging adults.” Celebrating Research on Aging, University of Pittsburgh (Abstract #21).

Montag DT, Lemster BH, Michel JJ, Koeske Z, Vallejo AN. 2007. “CD56 is a functionally versatile immune receptor for aging T cells.” Celebrating Research on Aging, University of Pittsburgh (Abstract #37)

Vallejo AN, Michel JJ, Bale L, Lemster BH, Conover CA. 2007. “Functional competence of T cells and resistance to thymic involution in long-lived PAPP-A knockout mice.” Celebrating Research on Aging,University of Pittsburgh (Abstract #8).

Lemster B, Michel JJ, Newman AB, Vallejo AN. 2006. “De novo expression and T cell receptor independent effector function of aging T cells.” Celebrating Research on Aging, University of Pittsburgh (Abstract #24).

Michel JJ, Turesson C, Lemster B, Atkins SR, Iclozan, C, Bongartz T, Wasko MC, Matteson EL, Vallejo AN. 2006. “CD56+ T cells with senescent features are over represented in rheumatoid arthritis.” Celebrating Research on Aging, University of Pittsburgh (Abstract #30).

Abedin S, Lemster B, Michel JJ, Hirsch R, Vallejo AN. 2005. “Indicators of immune exhaustion in juvenile idiopathic arthritis.” Arthritis and Rheumatism 52:S443 (Abstract #1156).

Janelsins B, Michel JJ, Salter RD, Vallejo AN. 2005. “Antigen capture and the induction of T-cell responses by rheumatoid fibroblast-like synoviocytes.” Arthritis and Rheumatism 52:S259 (Abstract #630).

Turesson C, Matteson EL, Michel JJ, Casey SJ, Lemster B, Vallejo AN. 2004. “Senescent immunophenotypes in extra-articular rheumatoid arthritis.” Arthritis and Rheumatism 50:S530 (Abstract #1376).

Michel JJ, Casey SJ, Paat JJ, Vallejo AN. 2004. “Replicative senescence in human T cells induces expression of CD56 that imparts survival advantage to terminally differentiated cells.” Clinical and Investigative Medicine 27:8A (Abstract #M1.55).