

## Jamie L. Miller, Ph.D.

### Academics

- 1995                      Graduated Valedictorian from Washington Irving High School,  
Clarksburg, WV                      Cumulative GPA: 4.073
- 1999                      Graduated Summa Cum Laude from Fairmont State College,  
Fairmont, WV                      Cumulative GPA: 4.0  
**B.S. in Biology (major) and Chemistry (minor)**
- West Virginia Academy of Sciences research presentation, 1<sup>st</sup> place recipient (1998)
  - Eleanor M. Ford Outstanding Senior in the Sciences Award, Fairmont State College (1999)
  - USA Today All American Academic Team Nominee (1999)
- 1999 - 2005                      West Virginia University Department of Microbiology,  
Immunology, and Cell Biology graduate student  
Morgantown, WV                      Cumulative GPA: 4.0
- The West Virginia University Health Sciences Center Graduate Student Academic Achievement Award Recipient (2001)
  - successfully passed Ph.D. candidacy examinations (written and oral) (2001)
  - Van Liere Memorial Research Convocation participant (2002)
  - West Virginia Academy of Sciences research presentation (2002)
  - International Society for Experimental Hematology research presentation (2002)
- Degree completion date: Summer II 2005  
**Ph.D. in Microbiology & Immunology**

### Community Involvement

- Board member for the Literacy Volunteers of America, Marion County Chapter, a United Way Agency (2006-2013)
- Board member for the Kaleidoscope Foundation, Fairmont, WV (2006-present)
- Charity artisan for the CASSIE Fund, a project at West Virginia University's Betty Puskar Breast Care Center which helps to cover mammography expenses for those who cannot otherwise afford them (2005-present)
- Founder, "ECHO: Endeavor to Contribute to the Health of Others", non-profit charity which aids in covering cancer treatment-related expenses for those in our communities who are in need of assistance (2008-present)
- WV eMentoring mentor to state high school students, a program of The Education Alliance (<http://www.wvmentoring.org/>) (2011-2013)
- Vice President, Jayenne Elementary School Parent Teacher Organization (2016-2019)

## Professional Experiences

- 1995-1998 West Virginia University Health Sciences Center  
Microbiology/Immunology laboratory; studied graft rejection under the direction of Dr. James M. Sheil
- 1998 Johns Hopkins Medical Institute Immunology laboratory; studied HIV vaccine development under the direction of Dr. Robert F. Siliciano
- 1998 National Institutes of Health Study Group (top national applicant to accompany Colgate University study team); studied HIV pathogenesis under the direction of Dr. Michael J. Lenardo
- 1999 West Virginia University Health Sciences Center Cancer Center; studied AFAP-110, a cytoskeletal protein, and its structure under the direction of Dr. Daniel C. Flynn
- 2000 National Institute of Occupational Safety and Health (NIOSH), Centers for Disease Control, Morgantown, West Virginia; studied T cell cryopreservation under the direction of Dr. Daniel C. Lewis
- 2000 Graduate Teaching Assistant, West Virginia University, Department of Microbiology & Immunology
- 2000-2005 West Virginia University Blood and Marrow Transplantation Laboratory; studying T cell recovery (including biological and therapeutic interactions) in patients after blood and bone marrow transplantation under the direction of Dr. Solveig G. Ericson
- 2001-2005 obtained and maintain Internal Review Board approval and certification for research project(s)
- 2005-2007 Scientist, The Institute for Scientific Research, Inc. (West Virginia High Technology Consortium Foundation), Fairmont, WV
- 2006 Visiting Scientist, Dominion Pharmakine, Bilbao, Spain; received significant training in toxicology testing in contract research setting
- 2007-2013 Director, Life Sciences, Mid-Atlantic Technology, Research & Innovation Center, Morgantown, WV
- 2007-2013 Adjunct Faculty, Department of Medicine, West Virginia University
- 2008 Original Research Presentations Judging Committee:  
West Virginia University, Charleston Division Annual Research Day
- 2008 6<sup>th</sup> Annual West Virginia Leadership Conference participant
- 2008-2010 Director, Life Sciences, Certus Scientific, LLC, South Charleston, WV
- 2010-2014 Chief Scientific Officer, TRAX BioDiscovery, LLC
- 2011 invited speaker to the 4<sup>th</sup> Annual Congress of Regenerative Medicine and Stem Cells, Clinical Transplantation of Stem Cell Therapy section; Beijing, China
- 2011 National Council of Entrepreneurial Tech Transfer - Research Commercialization Course Certificate of Completion

2012	2 <sup>nd</sup> Annual BIO WV Summit technology commercialization panelist
2012	guest of West Virginia Public Broadcasting's The Legislature Today-discussing biotechnology in West Virginia
2012	Speaker to bioengineering students at WVU College of Engineering and Mineral Resources, invited by Dr. Cerasela Zoica Dinu
2012	STaR Symposium/ WVAS meeting panelist- Biotech Success Stories
2014-present	Instructor, Department of Biology, Fairmont State University, Fairmont, WV (entry level and major's level lecture and laboratory instruction experience)
current	certified training in the following: chemical safety, handling of blood borne pathogens, handling of patient related samples and information (HIPAA), as well as NIH sponsored training for the usage of human research subject (HPPERT)
current	trained in compliance with U.S. Customs regulations for the proper transfer of biological materials and samples into and out of the United States

### **Scientific Affiliations**

2010-present	West Virginia Biosciences Association
2008-present	Fairmont State University Strategic Planning Committee Participant
1997-present	Association for Women in the Sciences
1996-present	West Virginia Academy of Sciences
1995-present	Beta Beta Beta Biological Honorary 1996-1997 treasurer of Eta Theta chapter 1997-1998 vice president of Eta Theta chapter 1997-1998 outstanding member of the year
1995-1999	American Chemical Society
1999	<i>Discover</i> Magazine reader advisory panel
1999-2001	American Society of Microbiologists
2005-2010	West Virginia Biosciences Steering Committee member

### **External, competitive funding**

1997	Association for Women in the Sciences/National Science Foundation grant recipient (\$2,000.00)
1998	Association for Women in the Sciences/National Science Foundation grant recipient (\$2,000.00)
1998	Burnside Academic Scholarship recipient (\$2,000.00)
1999	Burnside Presidential Scholarship recipient (\$3,000.00)

2001	Burnside Presidential Scholarship recipient (\$1,000.00)
2006	Institute for Defense and Homeland Security Environmental Bioterrorism Detection Phase I CONOPS (\$100,000.00)- project life scientist
2008	West Virginia Development Office SBIR "Phase Go/Phase 0" grant recipient: <i>Development of a rapid and accurate TB diagnostic</i>
2008	West Virginia Development Office SBIR "Phase Go/Phase 0" grant recipient: <i>Development of technology to non-invasively differentiate and monitor white blood cells.</i>
2008	West Virginia Development Office SBIR "Phase Go/Phase 0" grant recipient: <i>Investigation of a potential MRSA therapeutic.</i>
2009-2010	Identification of cellular markers for pre-term labor. Contract research with WVU Charleston (CAMC)

### **Publications**

1. **Brewer, J.**, Frankenberry, M., Sheil, J. Important features of class I major histocompatibility complex (MHC) molecules for alloreactive T cell recognition. *WV Academy of Sciences* 70(1):6, 1998.
2. Ericson, S., Henderson, A., **Brewer, J.**, Kavanaugh, K., Blobaum, A., Gibson, L. Anti-thymocyte globulin treatment of neutrophils in vitro can induce inflammatory responses as well as cell death. *Experimental Hematology* 29(8) Supp. 1:62, 2001.
3. **Brewer, J.**, Ericson, S. Developing a methodology to detect human T cell receptor variable family gene expression patterns. *WV Academy of Sciences*, accepted, 2002.
4. **Brewer, J.**, Ericson, S. Developing a methodology to detect human T cell receptor variable family gene expression patterns in graft-vs-host disease patients. *International Society for Experimental Hematology*, accepted, 2002.
5. **Brewer, J.**, and Ericson S. *U.S. Patent # 7,691,994*  
Development of a methodology to detect expression of human T cell receptor variable family gene expression patterns.
6. **Brewer, J.**, and Ericson S. An Improved Methodology to Detect Human T cell Receptor Beta Variable Family Gene Expression Patterns. *J Immunol. Methods.* 302(1-2):54-67, 2005.
7. **Miller, J.**, and Ericson S. Cyclosporine A (CSA) and tacrolimus (FK506) differentially alter T cell receptor (TCR) expression *in vivo*. *Immunopharmacology and Immunotoxicology* 29(1):105-118, 2007.
8. Smith, M., Seybold, D., Aladefa, K., **Miller, J.**, and Calhoun, B. Inflammatory Cytokines and Cervical Length: Relationship to Incidence of Preterm Birth. *Society for Gynecological Investigation (SGI) 59<sup>th</sup> Annual Scientific Meeting*, accepted, 2012.
9. Smith, M., Seybold, D., Aladefa, K., **Miller, J.**, and Calhoun, B. Cytokines and Cervical Length: A Pilot Study of Relationship to Incidence of Preterm Birth. *Immunology Innovation* 1:2, 2013.

## **Laboratory Technique-Related Experience**

sterile (aseptic) cell culture  
bacterial (septic) culture, including selective and differential media culturing  
viral culture  
drug sensitivity testing  
swab testing  
colony forming assays  
HPLC  
NMR  
Gas Chromatography (GC)  
spectroscopy  
Infrared Analysis (IR)  
Ultraviolet Analysis (UV)  
Atomic Absorption (AA)  
titrimetric analysis  
potentiometric analysis  
DNA Methylation  
cloning  
recombination and transformation procedures  
restriction mapping  
genomic library construction  
aptamer development (SELEX)  
TUNEL  
caspase assays  
annexin analysis  
cell proliferation analysis (CFSE tracking)  
confocal microscopy  
electron microscopy  
transwell assays  
RNA, DNA, and protein isolation  
gel electrophoresis  
SDS-PAGE  
Southern Blotting  
Western Blotting  
Flow cytometry and FACS analysis  
PCR  
RT-PCR  
Realtime PCR  
DNA sequencing  
Nucleic acid mutation detection  
Primer and labeled probe design  
Genomic analysis  
ELISA  
Kinase and phospholipase assays  
LD<sub>50</sub> testing  
Cell separation: columns, density, and magnetic separation  
CsCl gradient ultracentrifugation  
radioactive isotope labeling  
chromium release assay  
dissection and organ harvesting  
intraperitoneal injections  
venipuncture techniques and peripheral blood cell isolation  
P3 laboratory experience  
Analytical and statistical data analysis and interpretation

In addition to expertise and proficiency in a wide range of biomedical and life science techniques, analytical and statistical data analysis and interpretation, etc., I also possess critical thinking and troubleshooting skills, the ability to interpret and write both simple and complex technical reports, as well as possess extensive computer literacy including but not limited to: Microsoft Office, scientific platform packages, internet resources, search engine proficiency, web site design and construction, technical and formal report preparations, presentations to various target audiences, statistical analysis packages, and government mandated form preparations. I also have experience with Blackboard, Taskstream LAT and FELiX platforms. I enjoy learning new skills and consider myself to be a quick learner, interacting well with others be it in person or remotely by means such as videoconferencing, Email, etc.