Barbara Kuemerle, Ph.D.

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Career objective: **To have a profession in academic instruction at the college level in the field of biological sciences, and to be involved in student development in both academics and research.**

Employment:

Aug. 2007-Present **Visiting Assistant Professor**
Department of Biology
CWRU

Responsibilities and Skills: **Teaching upper level courses in the biological sciences, including Cell Biology 325, Biotechnology Laboratory 301, and Biology 216: Organism and Ecosystems, as well as advising students.**

2006- 2007 **Adjunct Faculty Member**
Lorain County Community College
Division of Science and Math

Responsibilities and Skills: **Teaching Biology 121: Anatomy and Physiology I (laboratory portion). Obtained valuable experience in college level instruction in the field of biological sciences.**

1999-2007 **Research Associate**
Department of Neurosciences, Case Western Reserve University
Laboratory of Dr. Karl Herrup, Professor of Neurosciences
Research: The *En2* knock-out mouse as an animal model for Autism Spectrum Disorder.

Responsibilities and Skills: **Planning and execution of a research project, grant and publication writing, oral presentations. Direct management and training of others (students, research assistants). Technical and laboratory skills include: immunohistochemistry, steriotactic surgery, application and assessment of neuronal tracers, mouse colony maintenance, microscopic analysis, image J software, molecular biology techniques (DNA preparation/analysis, PCR, etc).**

2000-2001 **Pharmaceutical Marketing Advisory Panel Moderator**
Arista Marketing Associates, Nelson Communications
2000 Lenox Drive Suite 100, Lawrenceville, NJ 08648

Responsibilities and Skills: Attending conferences where thought leaders in the field of Rheumatology and Gastroenterology presented scientific data on the use of the anti-TNF biologic, Remicade, for the treatment of Rheumatoid arthritis and Crohn's disease. Trained in group dynamics, I conducted 2 hour didactic break-out discussion sessions following the presentations. In these sessions, I asked catalyst questions, sequentially involving all the physician participants to address concerns and provide solutions to treatment challenges. This experience enabled me to hone skills in interpersonal communication, interactive presentation, persuasion and instruction.

Education:

1980-1984 **Attended Magnificat High School**
Rocky River, Ohio
GPA: 3.8

1984-1988 **B.S., Molecular Genetics**
Ohio State University, Columbus, Ohio
Active membership in Alpha Epsilon Delta (premedical society) and Helix (biological sciences society)
GPA: 3.4

1987 **Summer research student**
Department of Biology, Case Western Reserve University
Advisor: Christopher Town, Ph.D.
Research: Anthranilate synthase activity in Arabadopsis thaliana.

1987-1988 **Undergraduate laboratory assistant**
Department of Molecular Genetics, Ohio State University
Advisor: Beryl Oakley, Ph.D.
Research: Mitotic recombination in Aspergillus nidulans.

1988-1992 **Graduate Student**
Department of Genetics, Case Western Reserve University
Advisor: John Schimenti, Ph.D.
Research: Knock-out of the mouse T Complex responder gene.
Completed core courses in cellular and molecular biology as well as upper level genetics.

1992-1993 **Doctoral candidate**

The Jackson Laboratory, Bar Harbor, Maine
Advisor: John Schimenti, Ph.D.
Research: Gene targeting of the T Complex responder gene.

(*Dr. Schimenti relocated to The Jackson Laboratory during my graduate training. I continued my research with him in Maine for about a year before returning to Case to complete a new thesis project with Dr. Herrup).*

Skills acquired: Expertise in tissue culture, maintenance of mouse embryonic stem cells, vector design, molecular cloning, (e.g., transformation, plasmid preparation, preparation of competent cells), southerns, etc.

1993-1997 **Thesis research, Department of Genetics**
Alzheimer Research Laboratory, Case Western Reserve University
Advisor: Karl Herrup, Ph.D.
Thesis: The Role of *Engrailed-2* in Cerebellar Patterning and Compartmentation.

Doctorate in Genetics, May 1997

Skills acquired: Understanding of developmental neuroscience, ability to critically analyze scientific data (journal club presentation, grant review), proficient with powerpoint and excel. Technical skills include those previously listed.

1997-1998 **Post-doctoral Fellow**
Center for Genetic Research, Department of Neurosciences
The Cleveland Clinic Foundation
Advisor: John Cowell, Ph.D.

NRSA recipient: Molecular characterization of the breakpoint region associated with a chromosomal rearrangement in a patient with Multiple Myeloma.

Technical skills acquired: pulsed field gel electrophoresis with YACs, preparation of metaphase chromosomal spreads, fluorescent in situ hybridization (FISH).

Professional Affiliation: Member: The Society for Neuroscience

Publications:

Kuemerle B., Bilovocky N., Gulden F., Williams, E. and Herrup, K. (2007). The mouse *Engrailed* genes: A window into autism. Behav Brain Res. Jan. 10; 176(1): 121-132.

Kuemerle, B. and Herrup, K. (2007). The Role of the *Engrailed-2* Gene in Determining Cell Number and Axonal Projections in the Mouse, *in preparation.*

Herrup, K., Murcia, C., Gulden, F., Kuemerle, B., and Bilovocky, N. (2005). The Genetics of Early Cerebellar Development: Networks not Pathways. Prog. Brain Res. 148: 21-27.

Kuemerle, B., Williams, EA., and Herrup, K. (2004), The *Engrailed-2* Mutant as a Model of the Neuropathology of Autism. Society for Neuroscience Abstract #116.9.

Kitamura, E., Kuemerle, BA, Chernova OB., Cowell, JK. (2001) Molecular Characterization of the Breakpoint Region Associated with a Constitutional t(2;5) (q34:q26) in a Patient with Multiple Myeloma. Cancer Genet. Cytogenet. 129 (2):112-119.

Kuemerle, B., Millen, K., Zanjani, H., Joyner, A. and Herrup, K. (1997). Pattern Deformities and Cell Loss in the Cerebellum of *Engrailed-2* Mutant Mice Suggest Two Separate Patterning Events during Cerebellar Development. The Journal of Neuroscience. 17: 7881-7889.

Herrup, K. and Kuemerle, B. (1997). The Compartmentalization of the Cerebellum. Annual Review of Neuroscience, 20: 60-91.

Ewulonu, U.K., Schimenti, K., Kuemerle, B., Magnuson, T. and Schimenti, J. (1996). Targeted Mutagenesis of a Candidate T Complex Responder Gene in Mouse T Haplotypes does not Eliminate Transmission Ratio Distortion. Genetics, 144: 785-792.

Kuemerle, B., Maricich, S.M., and Herrup, K. (1996) Regional Variation in the Development of the Deep Cerebellar Nuclei: A Tale of Two Mutants. Society for Neuroscience Abstract, #23.14.

Kuemerle, B., Millen, K., Joyner, A. and Herrup, K. (1995). Sagittal Compartments of the Cerebellum are disrupted in *En-2* mutant mice. Society for Neuroscience Abstract, #416.9.

Bullard, D., Kuemerle, B., and Schimenti, J. (1992). Functional Evaluation of a T Complex Responder Gene. International Mouse Genome Conference, *abstract.*

References:

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