

Michael B. Peracchio

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OBJECTIVE

As a highly motivated molecular biologist with proven technical and analytical skills, I am seeking a challenging position in a clinical, research, or industrial setting, where I can contribute to science while helping improve the lives of others. I am highly organized with an attention for detail and have extensive teaching and leadership experience that would be essential to managing, supervising, and mentoring people in a collaborative environment.

EDUCATION

M.S., Genetics and Genomics, University of Connecticut, Storrs, CT, December 2015

Research topic: Characterization of novel small RNAs from Epstein-Barr virus

GPA: 4.12/4.33

M.S., Secondary Education, Eastern Connecticut State University – Willimantic, CT, May 2007

Concentration in Biology

GPA: 4.00/4.00

B.S., Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT, May 2003

Minor in Molecular and Cell Biology

Honors: Golden Key National Honor Society, New England Scholar – 2003, Dean's List (all semesters)

GPA: 3.63/4.00, *magna cum laude*

RESEARCH EXPERIENCE

Graduate Assistant – University of Connecticut, Storrs, CT, 2012-2015

Department of Molecular and Cell Biology – Genetics and Genomics

- ❖ Characterization of novel small RNAs produced by the Epstein-Barr virus (EBV) and investigation of their roles in EBV-associated cancers
- ❖ DARPA-funded large-scale human genomics/transcriptomics analysis
- ❖ Mining GRO-seq data for evidence of transcription start sites and active promoters within human centromeric alpha-satellite sequences

SKILLS & ABILITIES

Molecular

- ❖ Total and small RNA isolation, DNA isolation, *in vitro* transcription (IVT), quantitation and quality assessment with Qubit and Bioanalyzer
- ❖ PCR/RT-PCR, real-time qPCR/qRT-PCR, gel electrophoresis, Northern and Western blotting
- ❖ Primer design, gene isolation, and molecular cloning for Sanger sequencing
- ❖ Transfection of short hairpin RNAs via customized vectors by electroporation and chemical methodologies

Next Generation Sequencing (NGS)

- ❖ Illumina TruSeq Small RNA library preparation for human small RNA-seq on MiSeq and NextSeq platforms
- ❖ Affymetrix GeneChip Whole Transcript Expression – Performed library preparation and sequencing of human transformed cell lines on GeneAtlas System; performed data analysis using Affymetrix Expression Console and Transcription Analysis Console software

Bioinformatics

- ❖ Primary and secondary analysis of human genomic and transcriptomic NGS data using various Unix command line and online programs, including FASTQC, Fastx Toolkit, Galaxy, NCBI BLAST, UCSC Blat, 4Peaks, Bowtie/Bowtie2; basic familiarity with Perl and R
- ❖ Clinical genomic data analysis with NCBI, UCSC, OMIM, Cancer Genome Anatomy Project (CGAP), Mitelman Database, Atlas of Genetics and Cytogenetics in Cancer
- ❖ Preparation of example clinical reports based on genomic data analysis

Cytogenetics

- ❖ Mammalian (human/primate) cell culture of adherent and suspension cell lines
- ❖ Chromosome harvest, slide preparation, G-banding, immunocytochemistry (ICC), and fluorescence *in situ* hybridization (FISH), including RNA FISH, and karyotyping (utilizing ISCN nomenclature)
- ❖ Imaging analysis of normal and transformed human cells using Olympus AX-70 and IX-71 fluorescent microscopes and Applied Imaging CytoVision karyotyping software and DeltaVision software

Other Skills

- ❖ Trained and mentored two undergraduate students working on various aspects of EBV small RNA project
- ❖ Laboratory management responsibilities including organization, inventory, and ordering of lab samples, supplies, and equipment
- ❖ Proficiency with Microsoft Office Suite (Word, Excel, PowerPoint), and basic familiarity with Adobe Photoshop and Adobe Illustrator

TEACHING/LEADERSHIP EXPERIENCE

Teaching Assistant, University of Connecticut, Storrs, CT, 2012-2015

The Genetics Revolution in Contemporary Culture – Fall 2013, 2014, 2015

- ❖ Organized and directed discussions about current topics in genetic engineering and biotechnology with six sections of 16 freshman and sophomore honor students
- ❖ Managed students within classroom and resolved issues that arose outside of the classroom
- ❖ Scheduled and conducted exam review sessions, graded course exams, and guided and evaluated student group projects and presentations

Genetic Engineering and Functional Genomics – Spring 2014

- ❖ Organized, scheduled, and directed honors section discussions of popular films related to the content of the course with 25 undergraduate students

Principles of Biology I – Fall 2012, Spring 2013

- ❖ Taught introductory laboratory biology, including basic molecular biology techniques, to over 150 students; managed student issues in and out of class, and graded lab reports, presentations, and lab practical exams

Genome Ambassadors, Connecticut Science Center, Hartford, CT, Summer 2015

- ❖ Worked with 12 high school students and CSC staff members to help students create mini-exhibits focused on genetics and genomics based on previous survey results addressing knowledge gaps of the general public
- ❖ Monitored student implementation of exhibits on museum floor and provided critical assessment and formative evaluation of public engagement for improvement of exhibits

Biology Teacher, Coventry High School, Coventry, CT, 2007-2012

- ❖ Taught various science subjects including Biology (Advanced Placement, Honors, College Prep, and General levels) and Energy & Matter (Honors and College Prep levels) to students in grades 9-12
- ❖ Designed and implemented lessons for diverse groups of students of varying abilities and learning styles
- ❖ Demonstrated effective classroom management to create a safe and positive learning environment
- ❖ Effectively communicated with parents about student progress, both positive and negative
- ❖ Collaborated with other faculty, administration, and staff in faculty and department meetings, pupil placement team (PPT) meetings, and professional development activities
- ❖ Served as faculty adviser to the National Honor Society and the student led Earth Club
- ❖ Coached Varsity Boys Basketball (2 years) and JV Boys Basketball (3 years)

PROFESSIONAL PUBLICATIONS/PRESENTATIONS

- ❖ Publication in preparation: Crivello, J.C., Peracchio, M.B., Trusiak, S.E., and O'Neill, R.J. Discovery of a novel small RNA from the EBER2 gene of Epstein-Barr virus. Expected submission by spring 2016.
- ❖ Presentation: Molecular and Cell Biology Graduate Seminar, March 2014
 - “Identification of novel small RNAs from Epstein-Barr virus and implications for EBV-associated cancers”
- ❖ Poster: Molecular and Cell Biology Departmental Retreat, Bolton, CT, Fall 2013
 - “EBV-positive cancers & noncoding RNA-mediated transformation”