**Molecular Biology, PhD**

**100 Main St. Reading, MA Bioguy@mit.edu (588)-669-5555**

<http://www.linkedin.com/bioguy>

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Highly motivated and innovative molecular biologist with specialization in mitochondria biology, molecular genetics, cell biology, microbiology, and biochemistry. Expertise in development and execution of genetic and biochemistry-based research methods. Passionate about learning new scientific skills. Enthusiastic team player adept at providing leadership while also learning from fellow team members. Experienced in managing multiple projects simultaneously. Effective communicator and teacher that can conceptualize complex biological to audiences with varied expertise.

**EDUCATION**

**Brandeis University Waltham MA 2003-2009**

* PhD Molecular and Cell Biology, Thesis: “The Stringent Response and the *E. coli* Cell Cycle.”

**The University of Vermont (UVM) Burlington VT 1997-2001**

* BS Animal Science

**EXPERIENCE**

**Massachusetts Institute of Technology (MIT) Department of Biology Cambridge MA 2009-Current**

**Postdoctoral Research Fellow** *(Laboratory of Professor X)*

* Awarded a Postdoctoral Fellowship from the American Cancer Society, New England Division.
* Examined how DNA damaging agents alter the mitochondrial metabolism and mitochondrial DNA of cells.
* Led project team that investigated how the cancer drug cisplatin perturbs iron homeostasis in cells.
* Introduced mitochondrial isolation and analysis techniques.
* Advised and assisted several students, including an undergraduate researcher.
* Constructed and taught four literature-based seminars to undergraduates on mitochondria and human diseases.

**Harvard Extension School, Cambridge MA Spring 2013**

**Instructor for “Biotechnology Basics.”**

* Designing and teaching a course on Biotechnology for non-scientist professionals.

**Brandeis University Department of Biology Waltham MA 2003-2009**

**Graduate Student** *(Laboratory of Professor Y)*

* Collaborated across labs to identify a novel bacterial cell cycle checkpoint induced by starvation.
* Investigated the physiological changes of starving bacterial cells.
* Developed a cell synchronization protocol for the replication of *Escherichia coli* cells
* Taught and trained students as a teaching assistant of the Advanced Bacterial Genetics Course in Cold Spring Harbor, NY.

**Hypnion Worcester MA 2002-2003**

**Research Associate II**

* Performed surgical implantation of telemeters and microchips in rodents to monitor sleep patterns by electro-encephalogram and electro-musculargram signaling.
* Monitored study chambers and performed treatments of various sleep-inducing and wake-promoting compounds.
* Ascertained quality control of electronic devices that registered sleep and wake signaling.
* Authored numerous general laboratory protocols for the maintenance of the electronics

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**SKILLS**

**Molecular Biology**

* DNA isolation, RNA isolation, plasmid and genomic DNA isolation, gene cloning from bacteria, site-directed mutagenesis, Gateway® cloning, PCR, qPCR, DNA sequence analysis, Southern blotting, Northern blotting, Chromatin immunoprecipitation (ChiP), Flow Cytometry, protein isolation, fluorescent microscopy, bacterial reporter assays, iron metabolism assays.

**Genetics**

* Gene disruption and gene replacement in bacteria and yeast, *S. cerevisiae* cytoduction for mitochondrial assays, Genetic screens in bacteria and yeast, Nuclear and mitochondrial DNA mutation frequency analysis in *S. cerevisiae*

**Biochemistry**

* Mitochondrial isolation, Western blotting, *In vitro* mitochondrial import assays

**Cell Culture (HEK 293T)**

* Cell line maintenance, transfection optimization, plasmid transfection, RNAi knockdowns

**Animal Models**

* Mouse and rat handling, oral gavage, intraperitoneal and tail injections, small animal surgery

**Teaching**

* Curriculum design and development, syllabus construction, lecturing

**FELLOWSHIPS AND AWARDS**

* Postdoctoral Research Fellowship from the American Society, New England Society

**PUBLICATIONS**

* **Bioguy**, Talker GC, Cisplatin Treatment Disrupts Iron Homeostasis by Inducing Oxidative Stress *(In preparation)*
* Perky NS, **Bioguy**, Copier DL, Moot HR, Lovett ST, The ObgE/CgtA GTPase Influence the Stringent Response to Amino Acid Starvation in *Escherichia coli Molecular Microbiology* July 2009 73(2):253-66.
* **Bioguy,** Copier DL, Moot HR, and Love ST, Cell Cycle Synchronization of *E. coli* using the Stringent Response, with Fluorescence Labeling Assays for DNA Content and Replication *Methods* May 2009 48(1):8-13
* **Bioguy**, and Love ST, The Stringent Response and Replication Arrest in *Escherichia coli PloS* *Genetics* December 2008: 4(12): e1000300
* Fota JJ\*, Perky NS, **Bioguy**, Love ST, Chromosome Segregation Control by *Escherichia coli* ObgE GTPase *Molecular Microbiology* July 2007: 65(2); 569-581
* Riviere F\*, Sole S\*, **Bioguy**, Moot M, A Late-Acting Quality Control Process for Mature Eukaryotic rRNAs *Molecular Cell* November 2006 (24) 619-626