

Phillip Cannon Burke

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Education

University of New Hampshire, Durham, NH; B.S Genetics, September, 2014

Average GPA for last 60 graded semester credits: 3.84

Recent Courses include:

Biochemistry of Nucleic Acids (Lab Course)

- *Molecular Microbiology w/ Lab*
- *Prokaryotic Genetics w/ Lab*

• *Eukaryotic Cell & Developmental Biology*

- *Biochemistry of Cancer*
- *Human Genetics*

Notable Events: *National Dean's List. UNH Dean's Scholarship. Granite State Scholar. Honors 2010-2014.*

Technical Skills:

- Recombinant protein expression in *E.coli*, using IPTG induction and Autoinduction. Experienced in both large-scale expression, up to 24 L of culture, and small-scale testing to determine ideal expression conditions.
 - Construct design utilizing web based bioinformatics tools such as BLAST and Expasy, and gene editing suites including Lasergene, Vector NTI, and free-ware programs such as APE.
 - TOPO, Gateway, and traditional cloning methods. Genomic and plasmid DNA isolation using mini and maxi kits and by phenol chloroform extraction. Creation of chemically competent cells.
 - Mammalian and insect cell culture. Stable and transient transfections for protein expression in *Drosophila* S2 cells. Additionally, experienced with protein expression with the Baculovirus system.
 - Protein purification by ÄKTA Avant FPLC, Bio-Rad LP system, and gravity column. Experienced with techniques including size exclusion, reversed-phase, affinity, and ion-exchange chromatography.
 - Molecular techniques such SDS and Native PAGE, BCA and Bradford assays, and immunological techniques including Western blot, and ELISA.
 - Experienced in Good Manufacturing Practices (GMP). Able to perform internal audits to FDA, USDA, and ISO standards. Comfortable writing and editing manufacturing standard operating procedures.
 - Comfortable working as part of a team in a professional setting, with the organizational skill and dedication required to plan and complete projects on a deadline.
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Laboratory Experience

InBios International Inc.

August 2014 – Present

Research Technician/Molecular Biologist

- Headed manufacturing antigen expression. Coordinated with other members of the protein group to produce and maintain gram quantity stocks of purified manufacturing antigens.
- Manufacturing protein purification of antibodies and antigens.
- Research and development of new antigens of interest for diseases including Lassa virus, Strongyloides, Filariasis, Malaria, Leptospirosis, Dengue virus, Chikungunya virus, Noro virus, and Zika virus. Responsible for process development and transfer of antigens from R&D into manufacturing workflow.
- Developed the *Drosophila* S2 cell expression system at InBios International Inc., for the large scale production of Dengue and Chikungunya viral proteins.

Whistler Genetics Lab, UNH, Durham New Hampshire

March 2013 – June 2014

Undergraduate Researcher

- Researched the role of the nitrogen regulatory protein GlnD in the bacteria *Vibrio Fischeri's* monocolonization of the light organ of the bobtail squid *Euprymna scolopes*.
- Worked to engineer a recombinant *GlnD::Erm* knockout mutant using PCR SOE and a triparental mating.
- Independently created a plasmid vector for the trans expression of the *GlnD* gene, with an altered potential *CsrA* binding site, in *V. fischeri*.
- Assisted in optimizing a nematode based virulence assay for *V. parahaemolyticus*.
- Presented research at the University of New Hampshire Undergraduate Research Conference.

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Additional Work Experience:

- Field Technician:** UNH Forestry and Wildlife Resources, Durham, NH Summer 2013
- Coordinated the etymology component of Matt Tarr's Songbirds & Invasive Shrubs project.
 - Responsible for maintaining the Nesmith hall ecological necropsy lab and field equipment.
- System Development and Setup:** PAX East, PC Games Tournament, Boston, MA, (Short-term) Spring 2014
- Davis Genetics Lab, Sample Maintenance Technician:** UNH Macfarlane Greenhouse, Durham, NH Fall 2012

Personal References

Dr. Greg Ireton

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Dr. Estelle Hrabak

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