OMB No. 0925-0001 and 0925-0002 (Rev. 11/16 Approved Through 10/31/2018)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Liam M. Sharp

eRA COMMONS USER NAME (credential, e.g., agency login): L\_SHARP

POSITION TITLE: Graduate Student

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

| INSTITUTION AND LOCATION | DEGREE  (if applicable) | Start Date  MM/YYYY | Completion Date  MM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- | --- |
| Juniata College | BS | 08/2008 | 05/2012 | Physics |
| Pennsylvania State University | Certificate | 05/2012 | 08/2012 | Material Science |
| Rutgers Camden | MS | 09/2014 | 05/2016 | Computational Biology |
| Rutgers Camden | PhD | 09/2016 | Current | Computational Biology |
|  |  |  |  |  |

1. **Personal Statement**

My long-term research goals involve the characterization of neuromuscular nicotinic acetylcholine receptors (nAChR) and it’s interaction within a native lipid environment. The first step in this is to preform detailed analysis of membrane composition, nAChR partitioning, and the membranes elasticity. My academic training has provided me with background in both physics and biology focusing heavily on the simulation of membranes. I have been in the Center for Computational and Integrative Biology researching in Dr. Brannigan’s computational biophysics lab for two years now. Dr. Brannigan is an established researcher in the field of computational biophysics studying ligand gated ion channel interactions, membranes, and small molecules. My initial research during my master’s degree was the study of T. Californica modeled native membranes and their interaction and partitioning of nAChR. Our plans for my PhD program will provide me with opportunity for public speaking, quality literature analysis, and correspondence with experimentalists. I feel the research I am preforming will have an impact on how we view lipid protein interactions.

1. **Positions and Honors**

**Positions and Employment**

**2014-2016 Student Tutor, Rutgers Camden Learning Center**

**2014-Current Graduate Researcher, Rutgers Camden**

**2016-Current Teaching Assistant, Rutgers Camden**

**Other Experience and Professional Memberships**

**2008-2012 Member, Society of Physics Students**

**2015-Current Member, Biophysical Society**

1. **Contributions to Science**
   1. **Undergraduate Research: I had spent a semester at Juniata College assisting Dr. Mathew Beaky characterizing CCD cameras designed for astrophysics research.**
   2. **Graduate Research: I have spent my time preforming graduate research under Dr. Grace Brannigan. We have been analyzing the interactions between nicotinic acetylcholine receptors and surrounding lipids. Experimentalists can use this research for drug development.** 
      1. Biophysical Conference 2016 Poster Presentation
      2. Biophysical Conference 2017 Poster Presentation
2. **Additional Information: Research Support and/or Scholastic Performance**

| YEAR | SCIENCE COURSE TITLE | GRADE | YEAR | OTHER COURSE TITLE | GRADE |
| --- | --- | --- | --- | --- | --- |
|  | **Juniata College** |  |  | **Juniata College** |  |
| 2008 | Intro To Physics I | B | 2008 | Information Access | A |
| 2008 | Intro To Physics Lab I | B- | 2008 | College Writing Seminar | B+ |
| 2008 | Physics Seminar I | A | 2008 | J.C. Wind Symphony | A |
| 2008 | Calculus I | B- | 2009 | Survey of Western Art | B+ |
| 2009 | Intro To Physics II | B- | 2009 | World Civil. From 1500 | B+ |
| 2009 | Intro To Physics II Lab | B | 2009 | J.C. Wind Symphony | A |
| 2009 | Calculus II | C | 2009 | Intro to Psychology | B- |
| 2009 | Modern Physics and Lab | B | 2010 | Intro to Anthropology | B+ |
| 2009 | Calculus III | C | 2010 | Origins of Evil | B |
| 2009 | Physics Seminar II | A | 2010 | J.C. Wind Symphony | A |
| 2010 | Thermodynamics | B | 2010 | Art of Public Speaking | B+ |
| 2010 | Differential Equations | B- | 2010 | Foundations of Education | B- |
| 2010 | Math. Methods of Physical Science | B | 2010 | Fd./Ed. Field Experience | B- |
| 2010 | Eng. Mechanics I: Static | B | 2010 | Adolescent Development | B- |
| 2010 | Linear Algebra | B | 2011 | J.C. Wind Symphony | A |
| 2010 | Physics Seminar III | A | 2011 | God, Evolution & Culture | B |
| 2011 | Quantum Mechanics | B | 2011 | Intro to Std. w/Except. | B+ |
| 2011 | Advance Lab | A | 2011 | JC Concert Band | A |
| 2011 | Mechanics | B | 2011 | East European Film | B+ |
| 2011 | Physics Seminar IV | A | 2011 | Sign Language I | A |
| 2011 | Computer Science I | A | 2012 | Flute Studio | A |
| 2012 | Astro Physics | B | 2012 | Mass media and Society | B |
| 2012 | Physics Research | A | 2012 | Sinners and Saints | B+ |
| 2012 | C++ | B | 20012 | Sign Language II | A |
|  | **Pennsylvania State University** |  |  |  |  |
| 2012 | Material, Safety & Equip Overview for Nanotech | NA |  |  |  |
| 2012 | Basic Nanotech Processes | NA |  |  |  |
| 2012 | Materials in Nanotech | NA |  |  |  |
| 2012 | Patterning for Nanotech | NA |  |  |  |
| 2012 | Materials Mod. In Nanotech App. | NA |  |  |  |
| 2012 | Characterization, Testing of Nanotech Structures and Materials | NA |  |  |  |
|  | **Rutgers State University** |  |  |  |  |
| 2013 | Mathematical Modeling | A |  |  |  |
| 2014 | Essentials of Biomath I | B |  |  |  |
| 2014 | Essentials of Biophysics | B+ |  |  |  |
| 2014 | CCIB Seminar | P |  |  |  |
| 2015 | Biophysics | A |  |  |  |
| 2015 | Cell membranes | A |  |  |  |
| 2015 | CCIB: Independent Study | A |  |  |  |
| 2015 | CCIB Seminar | P |  |  |  |
| 2015 | Essentials of Integral Biology | B |  |  |  |
| 2015 | CCIB Seminar | P |  |  |  |
| 2015 | Biological Bias Behavior | B+ |  |  |  |
| 2016 | Industrial Math | A |  |  |  |
| 2016 | CCIB Seminar | P |  |  |  |
| 2016 | Master’s Thesis | P |  |  |  |