OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

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: Dinh, Mina Nguyen

eRA COMMONS USER NAME (credential, e.g., agency login): minadinh

POSITION TITLE: Research Technician

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 |
| --- | --- | --- | --- | --- |
| University of Washington, Seattle, WA | B.A. | 09/2015 | 06/2019 | Biochemistry |

**A. Personal Statement**

**My academic background spans a variety of disciplines. At the University of Washington (UW), I majored in Biochemistry and double minored Education, Learning & Society and Applied Mathematics. Though enamored with the natural sciences, I was first interested in social justice and equity in education. While mentoring first generation low-income students like myself and later leading my own classes at UW focused on educational equity and mentoring, I began to bridge the inequalities I saw in access to education to access to medicine. I realized this manifested in my own family’s experiences, watching my parents navigate the healthcare system as Vietnamese immigrants and growing up in a rural area. This motivated me to learn more about the field of medicine itself. After getting involved in both clinical and laboratory research in addition to teaching and mentoring, I realized that I want to be a part of all three domains.** My **long-term goal** is to become a physician scientist where I can continue my growing passion for research and I ultimately hope to work at the intersection of research, education, and medicine.

**My scientific career began as a freshman, where I worked as a** clinical research assistant at Seattle Cancer Care Alliance (SCCA). Here, I first learned the basics of how clinical research works, looking at both the regulatory side as well as the patient care side. Because our principal investigators were both researchers and doctors, I had the unique opportunity to witness translational research firsthand. It was over my four years at SCCA that I was able to experience and see the implementation of new breakthroughs and technological advances, including the long processes of grant-writing, novel treatment development, clinical protocol writing, and finally, the direct implementation and practice of the research on our patients. I quickly learned that medicine was something that I wanted to pursue; my next step was to understand the basic research that preceded what I saw in clinic.

I joined Dr. Liangcai Gu’s Lab in the Institute of Protein Design and UW School of Medicine at the end of my sophomore year while simultaneously working at SCCA. There, I worked on a general approach for identifying new chemically induced dimerization (CID) systems. As my first real introduction to wet lab and basic research, I was fascinated by how my mentors were drawn to create something so novel that could set the groundwork for both future researchers and clinicians. The project was centered around creating CID systems for any given small molecule which has many implications of use, for example, controlling cell signaling or aiding in T-cell activation. I marveled at the idea of creating something new and I enjoyed the tactile nature of bench work. When I was brave enough to venture past my lab bench, I became increasingly fascinated with what was happening on the other side of the lab—dry lab—and so I sought out this curiosity by taking a Data Science for Biologists course and a Genome Informatics course later that year. That was enough to convince me that I had to try computational research.

In the summer before my senior year, I applied for and was one of 16 students accepted from a national pool of applicants to be a part of the 2018 NCI Cancer Systems Biology Consortium and Physical Sciences in Oncology Network Summer Undergraduate Research Fellowship. This granted me the opportunity to conduct research at Moffitt Cancer Center under the supervision of Drs. Robert Gatenby, Alexander Anderson, and Joel Brown. There, I was introduced to the field of mathematical oncology and the novel idea of using math to both understand and inform cancer treatments. My project focused on adding a second drug to an existing adaptive therapy clinical trial being conducted at the cancer center. Using mathematical modeling, we proposed a Primary-Secondary adaptive therapy where the evolution of resistance to a primary drug is treated with and controlled by a secondary drug. By simulating the optimal treatment regimen for each patient currently in the clinical trial, we showed that the strategy by which two drugs can be administered can delay the onset of progression. In essence, I realized that this was the ideal way I wanted to do research: using the tools we have in silico to answer the questions we can’t necessarily answer in the lab—for example, watching the evolution of a tumor in realtime—and in parallel to the patient-specific data that we could gather from clinic.

Dr. Jacob Scott’s Lab at Cleveland Clinic was the perfect fit to my realized goals. I joined in September 2019 as a research technician where I will be working during my gap years while applying to MSTP programs. I hope to deepen and broaden my understanding in mathematical oncology and lead my own project. This opportunity will allow me to explore a field I am passionate about further and give me the time to study for the MCAT, assemble my application materials, and gain the necessary clinical experience I need to make me a more competitive applicant through volunteering and shadowing. I am beginning to volunteer at the inpatient nursing unit here at Cleveland Clinic and at the Greater Cleveland Food Bank, two places my mom had relied on back home to support herself through her disability. I will begin shadowing at both Cleveland Clinic and University Hospitals in various specialties. Here in the lab, my main focus will be in wet lab learning and applying our novel game assay to different microenvironmental heterogeneous spaces, but I also hope to learn from my fellow coworkers to expand my dry lab skills. I will also enhance my scientific communication skills by applying, attending, and presenting at research conferences, presenting journal club during lab meetings, helping write grants and manuscripts, and returning to my love of mentoring by taking on undergraduates who join the lab.

1. **West J.B., Dinh, M.N., Brown, J.S., Zhang, J., Anderson, A.R., and Gatenby, R.A. Multidrug cancer therapy in metastatic castrate-resistant prostate cancer: An evolution-based strategy. Clin Cancer Res July 15 2019 25 (14) 4413-4421; DOI:10.1158/1078-0432.CCR-19-0006**

**B. Positions and Honors**

**Positions and Employment**

|  |  |
| --- | --- |
| **2016-2016** | **Instructor, University of Washington First Year Programs, Seattle, WA** |
| **2018-2018** | **Undergraduate Research Fellow, NIH/Moffitt Cancer Center, Tampa, FL** |
| **2017-2019** | **Co-Instructor, University of Washington College of Education, Seattle, WA** |
| **2017-2019** | **Intern, University of Washington Dream Project, Seattle, WA** |
| **2017-2019** | **Research Assistant, University of Washington School of Medicine, Seattle, WA** |
| **2015-2019** | **Clinical Research Assistant, Seattle Cancer Care Alliance/UW Medicine, Seattle, WA** |
| **2019-** | **Research Technician, Cleveland Clinic Lerner Research Institute, Cleveland, OH** |

**Other Experience and Professional Memberships**

|  |  |
| --- | --- |
| **2019-** | **Affiliate Member, American Association for Cancer Research** |
| **2020-** | **Member, Society for the Study of Evolution** |

**Honors**

|  |  |
| --- | --- |
| **2016** | **Quarterly Dean’s List (2 quarters), University of Washington, Seattle, WA** |
| **2018** | **NIH CSBC/PS-ON Summer Undergraduate Research Fellowship, Bethesda, MD** |
| **2018** | **Deluxe Travel Award, Moffitt IMO Workshop 8: Evolutionary Therapy, Tampa, FL** |
| **2018** | **1st Place, Moffitt IMO Workshop 8: Evolutionary Therapy, Tampa, FL** |
| **2020** | **Trainee Travel Award, Case Comprehensive Cancer Center, Cleveland, OH** |

**C. Contributions to Science**

**D. Additional Information: Research Support and/or Scholastic Performance**

| YEAR | COURSE TITLE | GRADE |
| --- | --- | --- |
|  | | |
|  |  |  |
|  | EDMONDS COMMUNITY COLLEGE (College in the High School) |  |
| 2015 | Calculus with Analytical Geometry I |  |
| 2015 | Calculus with Analytical Geometry II |  |
|  | UNIVERSITY OF WASHINGTON |  |
| 2015 | General Chemistry I |  |
| 2015 | Introduction to Astronomy |  |
| 2015 | Bioscientific Vocabulary Building from Latin & Greek |  |
| 2015 | The University Community |  |
| 2016 | General Chemistry II |  |
| 2016 | Calculus with Analytic Geometry III |  |
| 2016 | Introduction to Psychology |  |
| 2016 | Introductory Biology Seminar |  |
| 2016 | Writing in Comparative Literature |  |
| 2016 | General Chemistry III |  |
| 2016 | Freshman Seminar in Bioengineering |  |
| 2016 | Undergraduate Peer Instructor Practicum |  |
| 2016 | Survey of Physiology |  |
| 2016 | Elementary Physiology Laboratory |  |
| 2016 | Latin & Greek in Current Use |  |
| 2016 | Composition: Literature |  |
| 2016 | Introduction to Biology I |  |
| 2016 | Organic Chemistry I |  |
| 2016 | Intermediate Interdisciplinary Writing for the Natural Sciences |  |
| 2016 | Undergraduate Peer Instructor Practicum |  |
| 2017 | Introductory Biology II |  |
| 2017 | Organic Chemistry II |  |
| 2017 | Organic Chemistry Laboratory I |  |
| 2017 | Mathematics for Elementary School Teachers |  |
| 2017 | Introductory Biology III |  |
| 2017 | Foundations in Molecular Cell Biology |  |
| 2017 | Organic Chemistry III |  |
| 2017 | Organic Chemistry Laboratory II |  |
| 2017 | Introduction to Biochemistry I |  |
| 2017 | Undergraduate Research in Biochemistry |  |
| 2017 | The Dream Project: Introduction to Mentoring Strategies |  |
| 2017 | The Dream Project: High School Visits – Field Experience |  |
| 2017 | Introductory Genetics |  |
| 2017 | General Physics I |  |
| 2017 | General Physics Laboratory I |  |
| 2018 | Introduction to Biochemistry II |  |
| 2018 | Data Science for Biologists |  |
| 2018 | Community Fieldwork: Special Topics |  |
| 2018 | Cancer Genetics |  |
| 2018 | General Physics II |  |
| 2018 | General Physics Laboratory II |  |
| 2018 | Organic Chemistry III |  |
| 2018 | Exceptional Children |  |
| 2018 | Genome Informatics |  |
| 2018 | General Physics III |  |
| 2018 | General Physics Laboratory III |  |
| 2018 | Beginning Scientific Computing |  |
| 2018 | Introduction to Differential Equations |  |
| 2018 | Engineering Cell Biology |  |
| 2018 | Physical Chemistry for Biochemists I |  |
| 2018 | (dis)Ability, Education, and the Arts |  |
| 2019 | Beginning Scientific Computing |  |
| 2019 | Introduction to Mathematical Modeling |  |
| 2019 | Physical Chemistry for Biochemists I |  |
| 2019 | Multiethnic Curriculum and Instruction |  |
| 2019 | Adolescent Development |  |
| 2019 | Partial Differential Equations and Waves |  |
| 2019 | Physical Chemistry for Biochemists II |  |
| 2019 | Issues and Trends in Inclusive Early Childhood Education |  |
| 2019 | Education, Learning, and Society Colloquium |  |
| 2019 | Introduction to Personalities and Individual Differences |  |
| 2019 | The Purpose of Public Schools in a Democracy |  |

***UW and EDCC follow the same letter grading system:***

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Number** | **Note** |
| A | 4.0-3.9 |  |
| A- | 3.8-3.5 |  |
| B+ | 3.4-3.2 |  |
| B | 3.1-2.9 |  |
| B- | 2.8-2.5 |  |
| C+ | 2.4-2.2 |  |
| C | 2.1-1.9 |  |
| C- | 1.8-1.5 |  |
| D+ | 1.4-1.2 |  |
| D | 1.1-0.9 |  |
| D- | 0.8-0.7 | Lowest passing grade. |
| E | 0.0 | Academic failure. No credit earned. |

***UW Specific Grading System:***

|  |  |
| --- | --- |
| W | **Official Withdrawal or drop from a course after the fourteenth calendar day of the quarter through the seventh week** - to be followed by a number representing the week in which the course was dropped. An official withdrawal is not computed in GPA calculations. Students who do not officially drop a course(s) will receive a grade of 0.0. For DL-suffix courses that do not follow the quarter schedule, the grade W shall be assigned to any course dropped after the fourteenth calendar day after the start of the course and more than two weeks before the end of the maximum term for completion of the course, as specified at the time of registration. The date of withdrawal shall be noted on the transcript. |
| CR | **Credit awarded in a course offered on a credit/no-credit basis only or in courses numbered 600, 601, 700, 750, and 800 -** The minimum performance level required for a CR grade is determined, and the grade is awarded directly, by the instructor. CR is not computed in GPA calculations. |

**Repeating Courses: Undergraduates**

With the approval of the academic department offering the course, an undergraduate may repeat a course once. Both the original grade and the second grade are computed in the GPA but credit is allowed only once. Veterans receiving benefits must receive approval from the Office of Special Services before a course is repeated.