

Deon Nguyen

Arizona State University

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EDUCATION

PhD, Molecular and Cellular Biology 2024–Present
Arizona State University (ASU), Tempe, AZ

Post-Baccalaureate 2022–2024
University of Massachusetts Chan Medical School (UMass Chan), Worcester, MA

Bachelor of Science, Biomedical Sciences, magna cum laude 2018–2022
Minor in History
ASU, Tempe, AZ

RESEARCH EXPERIENCE

PhD Student, ASU 06/2024–Present
Advisor: Dr. Masmudur Rahman

- Determining the mechanism of the DExD/H-box RNA helicase DHX29 in supporting leporipoxvirus replication in transformed and cancer cell lines
- Characterizing the immunological changes induced by oncolytic myxoma virus on the tumor microenvironment in a syngeneic mouse model
- Establishing the anticancer efficacy of oncolytic myxoma virus in combination therapy with the FDA-approved nuclear export inhibitor Selinexor against metastatic melanoma

Research Associate I, UMass Chan 06/2022–06/2024
Advisor: Dr. Wenwen Fang

- Evaluated the immunogenicity of fully purified circular RNAs in immune and non-immune cell models
- Determined the endosomal and cytosolic sensors involved in foreign circular RNA recognition in innate immunity using CRISPR KO immune cell models
- Developed a scalable and optimized circular RNA purification method that achieves complete separation from double-stranded species and linear RNA contaminants
- Compared the functional half-life of synthetic circular RNAs to linear RNAs

Undergraduate Research Assistant, ASU 08/2019–06/2022
Advisor: Dr. Karen Anderson

- Produced HLA-I tetramers to characterize SARS-CoV-2-reactive CD8+ T cells in unexposed individuals
- Expressed engineered SARS-CoV-2-specific T cell receptors on Jurkat T cells with the Sleeping Beauty transposon system to study cross-reactivity between SARS-CoV-2 and common cold coronaviruses

- Identified conserved epitopes among coronaviruses that induce T cell activation as targets for vaccine design

Helios Summer Intern, Translational Genomics Research Institute

05/2019–08/2019

Advisor: Dr. Patrick Pirrotte

- Utilized mass spectrometry to characterize the nuclear proteomes in ovarian cancer cell models to analyze the transcription factor landscape driven by the atypical chromatin remodeling activity of residual SWI/SNF complex

PUBLICATIONS

Peer-reviewed journal articles

- Carmona J, **Nguyen D**, Enow JA, Cashen M, Gutierrez-Jensen A, Reed N, Macias Marquez M, Hossain M, Lucas A, McFadden G, Rahman MM. Transgene-armed oncolytic myxoma virus induces abscopal anti-tumor immunity against colon carcinoma in immunocompetent mice. *Manuscript in preparation to Molecular Therapy Oncolytics*.
- **Nguyen D**, Biasini A, Allen B, Muhammad S, Fang W, and L Li. A scalable and column-free purification method for preparing non-immunogenic circular mRNA. *Manuscript under revision to Nucleic Acids Research*.
- Felix Mejia A, **Nguyen D**, Fang W, and L Li. Efficient circularization of pseudouridine-modified RNAs provides a durable and non-immunogenic platform for mRNA therapeutics. *Manuscript under revision to Molecular Cell*.

Book chapters

- **Nguyen D***, Carmona J*, and Rahman MM (in press). Oncolytic virotherapy for the treatment of tumors with armed myxoma virus. *Advances in Cancer Research Volume 171*. <https://doi.org/10.1016/bs.acr.2026.02.002>

*Equal contribution

HONORS AND AWARDS

Achievement Rewards for College Scientists (ARCS) Award Amount awarded = \$8,500	2026
ASU School of Life Sciences Graduate Student Travel Award Amount awarded = \$100	2025
ASU Graduate College Q3 Travel Award Amount awarded = \$100	2025

Best Overall Poster 7 th Annual BioSci Southwest Symposium (58 total presenters)	2025
ASU Graduate Research Support Program Amount awarded = \$2,000	2025
Certificate of Recognition for Contribution as Judge for 32 nd Annual School of Life Sciences Undergraduate Research Symposium	2025
ASU Women and Philanthropy Foundation Grant Amount awarded = \$50,000	2025
ASU Graduate Student Government Individual Travel Grant Amount awarded = \$950	2025
ASU Graduate College University Grant Amount awarded = \$5,000	2025
Best Posters Award winner 5 th Annual RNA Therapeutics Conference: From Concept to Clinic (four award winners out of over 140 presenters total) Amount awarded = \$100	2023
2 nd Prize Award in the Immunology Category 29 th Annual School of Life Sciences Undergraduate Research Symposium (over 80 presenters)	2022
College of Liberal Arts and Sciences Dean's List	2018–2022
Obama Scholar	2018–2022
New American University Provost's Award	2018–2022
Helios Scholar	2019
Peoria Rotary Club Student of the Month	2018
<u>ORAL PRESENTATIONS</u>	
- The RNA helicase DHX29 promotes leporipoxvirus infection Full talk, Molecular and Cellular Biology Colloquium Seminar Series	10/2025
- The RNA helicase DHX29 promotes leporipoxvirus infection Flash talk, 25 th International Poxvirus, Asfarvirus, and Iridovirus Conference	05/2025

- Oncolytic immunotherapy in the treatment of lung metastatic cancers 05/2025
Full talk, 10th Annual Arizona Biomedical Research Centre-Flinn Research Conference
- Innate immune sensing of synthetic short and long circular RNAs 04/2024
Full talk, RNA Data Club Seminar Series
- Proinflammatory and type I interferon responses to foreign RNA circles 05/2023
Full talk, RNA Therapeutics Institute Monthly Chalk Talks

POSTER PRESENTATIONS

- DHX29 positively regulates gene expression of leporipoxviruses 11/2025
7th Annual BioSci Southwest Symposium
- The RNA helicase DHX29 promotes leporipoxvirus infection 05/2025
25th International Poxvirus, Asfarvirus, and Iridovirus Conference
- Scalable purification of circular mRNAs 06/2024
6th Annual RNA Therapeutics Conference: From Concept to Clinic
- TLR7/8 sensing of exogenous circular RNAs activates an innate immune response in human cells 10/2023
28th Annual UMass Chan Basic Science Retreat
- TLR7/8 sensing of exogenous circular RNAs activates an innate immune response in human cells 05/2023
5th Annual RNA Therapeutics Conference: From Concept to Clinic
- Stable T cell receptor expression using the sleeping beauty transposon system 05/2022
29th Annual School of Life Sciences Undergraduate Research Symposium
- Nuclear proteomic profiling of ovarian cancers with shared genomic alterations in SWI/SNF subunits 08/2019
13th Annual Helios Symposium

TEACHING EXPERIENCE

- BIO 451/551 Cell Culture and Biotechnology 06/2021–06/2022
- Maintained cell lines and prepared reagents for students to perform experiments with
 - Collaborated with a team of professors, lab managers, and other TAs at weekly meetings and actively contributed input on designing lesson plans
 - Trained students in mammalian cell culture, immunocytochemistry, fluorescent microscopy, and molecular biology techniques
 - Guided students in designing unique final projects based on lab techniques learned during the semester

- Wrote study guides and organized review sessions for students to ensure that students were adequately prepared for upcoming exams
- Recruited prospective TAs as my replacements and trained them to become proficient in the techniques performed and competent in the course material

BIO 420 Immunology: Molecular and Cellular Foundations 12/2021–06/2022

- Designed and wrote worksheets based on lectures and textbook readings
- Independently led recitation sessions by going through worksheets with students to maximize retention and understanding
- Organized and led review sessions to prepare students for upcoming exams

MENTORING EXPERIENCE

- Zikang Chen (currently in ASU BS program) 05/2025–Present
- Manuel Cias Marquez (currently in ASU BS program) 10/2024–01/2026
- Anja Lera (currently in Endicott College BS program) 11/2023–06/2024
- Brendan Geesey (currently in University of Pennsylvania PhD program) 01/2022–06/2022
- Ananya Kohli (currently in Cornell University PhD program) 01/2022–06/2022

OUTREACH AND SERVICE ACTIVITIES

32nd Annual School of Life Sciences Undergraduate Research Symposium 04/2025

- Judged scientific posters made and presented by undergraduate researchers based on poster design, interpretation of results, and articulation of overall research

Volunteer Committee Member for the Artists of Biodesign Exhibition 03/2025–Present

- Collaborate with a team to organize and showcase artwork created by staff, faculty, and students
- Curate displays, design signage to promote the exhibition, and foster community engagement through art
- Contribute to event planning, logistics, and outreach to encourage participation

ASU Graduate Student Government Research Grant Reviewer 03/2025–Present

- Evaluated and scored graduate student research grant proposals based on originality, feasibility, and impact
- Provided constructive feedback to applicants to improve proposal quality

Statewide Arizona Science and Engineering Fair 03/2025

- Judged a variety of student research projects, ranging from biology to physics
- Scored students based on their scientific approach, comprehension of project areas, data interpretation, and creativity of experimental design

- Provided exposure and pathways to STEM careers to budding scientists to reinforce their interests in research

ASU Open Door 02/2025

- Assisted in running an interactive “Build-your-own-virus” activity for children to participate

Worcester Technical High School Biotechnology Program 11/2023–06/2024

- Provided a high school student from historically underrepresented groups with valuable and practical lab experience
- Mentored student in basic molecular biology techniques, cell culture, and immunoassays

Statewide Massachusetts Science and Engineering Fair 05/2023

- Judged a variety of student research projects, ranging from biology to physics
- Scored students based on their scientific approach, comprehension of project areas, data interpretation, and creativity of experimental design
- Provided exposure and pathways to STEM careers to budding scientists to reinforce their interests in research

Online Undergraduate Research Scholars (OURS) Program 10/2021 and 03/2022

- Organized research immersion program alongside a team of professors and other TAs for online undergraduate students to participate in-person
- Instructed students of various research experience levels in basic and intermediate lab techniques

PROFESSIONAL MEMBERSHIPS

American Society for Microbiology (ASM) 2025–Present
Branch member

American Association for the Advancement of Science (AAAS) 2025–Present
Elemental member