

NIH BIOGRAPHICAL SKETCH COMMON FORM

Name: Queen, Katelyn

Persistent Identifier (PID) of the Senior/Key Person: <https://orcid.org/0009-0005-6585-8045>

Position Title: Deputy Associate Director for CRTEC

Organization and Location: University of Vermont Cancer Center, Burlington, Vermont, United States

PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE	Start Date	Completion Date	FIELD OF STUDY
University of Vermont, Burlington, Vermont, United States	Doctor of Philosophy (PHD)	08/2018	10/2023	Cell Biology
Northern Michigan University, Marquette, Michigan, United States	Bachelor of Arts (BA)	08/2013	05/2017	Neuroscience

Appointments and Positions

2024 - present	Deputy Associate Director for CRTEC, University of Vermont Cancer Center, Burlington, Vermont, United States
2026 - present	Chair of the Emerging Leaders Corp, University of Vermont Cancer Center, Burlington, Vermont, United States
2025 - present	Director for the Rural Health and Cancer Conference, University of Vermont Cancer Center, Burlington, Vermont, United States
2024 - present	Member of the CRTEC Advisory Committee, University of Vermont Cancer Center, Burlington, Vermont, United States
2023 - present	Assistant Professor, University of Vermont, Burlington, Vermont, United States
2023 - 2024	Assistant Director for CRTEC, University of Vermont Cancer Center, Burlington, Vermont, United States
2020 - 2023	Predocctoral Fellow, University of Vermont, Burlington, Vermont, United States
2018 - 2020	Graduate Student Teaching Assistant, University of Vermont, Burlington, Vermont, United States
2017 - 2018	Paraprofessional, Heartwood School, Mason, Michigan, United States

Products**Products Closely Related to the Proposed Project**

- Schutt KL, Queen KA, Fisher K, Budington O, Mao W, Liu W, Gu X, Xiao Y, Aswad F, Joseph J, Stumpff J. Identification of the KIF18A alpha-4 helix as a therapeutic target for chromosomally unstable tumor cells. Front Mol Biosci. 2024;11:1328077. PubMed Central PMCID: [PMC10896213](#).
- Queen KA, Cario A, Berger CL, Stumpff J. Modification of the neck-linker of KIF18A alters Microtubule subpopulation preference. Mol Biol Cell. 2024 Jan 1;35(1):ar3. PubMed Central PMCID: [PMC10881168](#).
- Marquis C, Fonseca CL, Queen KA, Wood L, Vandal SE, Malaby HLH, Clayton JE, Stumpff J. Chromosomally unstable tumor cells specifically require KIF18A for proliferation. Nat Commun. 2021 Feb 22;12(1):1213. PubMed Central PMCID: [PMC7900194](#).

Other Significant Products Highlighting Contributions to Science

- Phillips AF, Zhang R, Jaffe M, Schulz R, Carty MC, Verma A, Feinberg TY, Arensman MD, Chiu A, Letso R, Bosco N, Queen KA, Racela AR, Stumpff J, Andreu-Agullo C, Bettigole SE, Depetris RS, Drutman S, Su SM, Cogan DA, Eng CH. Targeting chromosomally unstable tumors with a selective KIF18A inhibitor. Nat Commun. 2025 Jan 2;16(1):307. PubMed Central PMCID: [PMC11697083](#).

Certification:

I certify that the information provided is current, accurate, and complete. This includes, but is not limited to, information related to current, pending, and other support (both foreign and domestic) as defined in 42 U.S.C. § 6605.

In accordance with Section 10632 of the CHIPS and Science Act of 2022 (42 U.S.C. § 19232), each individual identified as a senior/key person must certify that they are not a party to a malign foreign talent recruitment program.

Research Security Training Requirement for Federal Award Personnel: In accordance with Section 10634 of the CHIPS and Science Act of 2022 (42 U.S.C. § 19234), each individual identified as a senior/key person must certify that they have completed the requisite research security training that meets the requirements specified in Item 2 of Important Notice No. 149 within 12 months prior to proposal submission.

Misrepresentations and/or omissions may be subject to prosecution and liability pursuant to, but not limited to, 18 U.S.C. §§287, 1001, 1031 and 31 U.S.C. §§3729-3733 and 3802.

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NIH BIOGRAPHICAL SKETCH SUPPLEMENT

Name: Queen, Katelyn

Persistent Identifier (PID) of the Senior/Key Person: <https://orcid.org/0009-0005-6585-8045>

Position Title: Deputy Associate Director for CRTEC

Organization and Location: University of Vermont Cancer Center, Burlington, Vermont, United States

Personal Statement

I am an Assistant Professor of Medicine and Deputy Associate Director for Cancer Research, Training, and Education Coordination at the UVM Cancer Center. Throughout my career and education, I have focused on servant leadership and community engagement while building my expertise in cell biology. Using my skills in science communication, science education, critical thinking, leadership, community building, and collaborative programming I have increased access to science for the public, inspired rural students to pursue further studies in STEM contributing to workforce development, and built opportunity providing programs. At my current position, I have placed myself in an environment that will support my educational and research endeavors, providing high-quality resources and mentoring. The UVM Cancer Center is renowned for their ability to reach rural populations and will provide a sound foundation for building educational outreach to rural communities.

An example of workforce development programming, I facilitated the implementation of “Careers in Cancer” at the University of Vermont Cancer Center in 2022. A now annual event drawing nearly 90 high school students from 10 local schools, Careers in Cancer is a summit for local high school students, hosted at UVM, designed to inspire students to pursue careers in cancer. Using my skills in science education, since its inauguration, I have built the research experience component of the Careers in Cancer program, inspiring students to pursue careers in research. The success of this program relies on my skills in collaborative approaches across a diverse array of stakeholders.

Recognizing the need to bridge the gap between broad audiences and scientific experts at UVM, I co-founded a local chapter of “Science on Tap” in 2022. Science on Tap engages communities with the research occurring at their local university through casual and accessible presentations at a local brewery. Under my leadership, on average, monthly Science on Tap events recruited over 30 community members who engaged with UVM faculty, trainees, and staff to learn more about a diverse array of scientific topics.

My fundamental research focused on understanding molecular mechanisms that drive accurate cell division and how these mechanisms can be exploited as potential therapeutics for human disease. These studies were supported by microscopy research techniques including confocal microscopy, epi-fluorescent microscopy, and single-molecule total internal reflection microscopy. As part of my graduate work I mentored multiple undergraduate students, including an honors thesis student who received an award as an outstanding undergraduate in the study of Biology.

As Deputy Associate Director (AD) for Cancer Research Training and Education Coordination (CRTEC) I have implemented several large educational programs including a mobile cell biology research program for high school students, a middle school lung cancer program, and SciArt: a collaboration between artists and scientists. These programs illustrate my ability to bridge the science and education world to create engaging program. As Deputy AD I also direct the Rural Health and Cancer Conference (RHCC). An annual event, RHCC brings in attendees from across the nation to share knowledge and collaborate to reduce the burden of cancer in rural areas.

Honors

2021	Teaching Certificate, UVM Graduate Teaching Program
2020 - 2023	Graduate Research Fellowship, National Science Foundation
2017	Graduated summa cum laude, Northern Michigan University
2017	Bill and Wilma Verrette Outstanding Community Service Internship Award, Northern Michigan University
2017	Michigan Campus Heart and Soul Award, Michigan Campus Compact
2013 - 2017	Harden Presidential Scholarship, Northern Michigan University

Contributions to Science

1. My early research experience aimed to identify the component of a seed exudate that would degrade dangerous Bisphenol-A (BPA) runoff. Due to industrial and agricultural practices BPA runoff was known to contaminate a large number of waterways. Given the known health hazards of BPA to both marine wildlife and humans the runoff posed a significant threat to public health. My work focused on mitigating this issue through the use of a native plant species whose biological properties would degrade harmful BPA runoff. As an undergraduate research assistant on this project I presented my work as a poster presentation at several conference including the American Chemical Society Regional Conference.
2. In order to connect the biochemical investigative skills I gained studying BPA degradation directly to human health issues, I completed a project focused on comparing the effects of the two most common compounds used to mimic Parkinson's Disease (PD), rotenone and 1-methyl-4-phenyl-1,2,3,6- tetrahydropyridine (MPTP), on cellular responses. This research was critical to our understanding of PD treatments as both compounds act through inhibition of the mitochondrial complex I and are used interchangeably in the lab to mimic PD. Our work highlighted significantly different early cellular responses to these compounds which need to be accounted for to improve PD research and treatments. As a summer fellow on this project I presented this work at the Society of Toxicology Annual Conference.
3. To complement my previous biological systems research I completed extensive work to understand the regulation and function of the molecular motor KIF18A. KIF18A has been shown to be dysregulated in several diseases, including cancer (PMID 33619254). Through understanding the regulation of KIF18A through modifications within its enzymatic region (neck-linker and motor domain, PMID 37903223 and 38410188) I have provided critical understanding for how KIF18A localization and function may be controlled in a spatial and temporal dependent manner to ensure accurate cell division, preventing disease onset. In addition, I worked collaboratively on a project analyzing a potential therapeutic KIF18A inhibitor (PMID 39747049).
4. After completing my PhD in Cell Biology I chose to combine my skills in science education, science communication, and fundamental science to develop science education programming. As part of this endeavor I have launched an extensive mobile cell biology lab research program for rural high schools students and have piloted and am expanding a middle school lung cancer experiential program. As part of the high school program I am using both Photovoice and STEM identity surveys to analyze impact and anticipate a publication with this data in the near future. I am also developing clinical information materials on genetic testing in comic form and will be completing a research study analyzing patients' understanding of the content in comic form versus the canonical pamphlet. Lastly, I launched a SciArt initiative that pairs artists and scientists to create artist renditions of scientific images. These pieces are then displayed and used to connect general audiences to science topics. Taken together my work in this space has contributed to workforce development, created pipelines of support for aspiring scientists, and utilized innovative methods to communicate challenging scientific topics.

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