

# Nia Myfanwy Clements

she/her/hers | 210-445-3168 | nmc72@cornell.edu | Updated November 2023

## EDUCATION

**Cornell University** – Ithaca, NY

Expected May 2024

*Masters in Public Health*

*Concentration in Infectious Disease Epidemiology*

*GPA: 4.30/4.30*

**Trinity University** – San Antonio, TX

May 2022

*Bachelor of Science in Biochemistry & Molecular Biology*

*Minor in Philosophy (Ethics)*

*Cumulative GPA: 3.6/4.0 | Junior & Senior Years GPA: 3.8/4.0*

## RESEARCH EXPERIENCE

**Graduate Student Researcher – Cornell University Department of Public and Ecosystem Health**

Jul 2023-Present

*Primary Advisor: Dr. Alistair Hayden, Department of Public and Ecosystem Health, Cornell University, Ithaca, NY*

- Analyze the association between per- and polyfluoroalkyl substance (PFAS) exposure via drinking water and sociodemographic vulnerability in New York State for an original research manuscript and policy recommendations
- Conduct spatial analysis in qGIS mapping software and statistical analysis in R
- Effectively work in collaboration with the New York State Department of Environmental Conservation by leading regular project update meetings and creating deliverables to be used by the agency

**Graduate Student Researcher – Cornell University Department of Public and Ecosystem Health**

Jun 2023-Present

*Primary Advisor: Dr. Gen Meredith, Associate Director Master of Public Health Program, Cornell University, Ithaca, NY*

- Collaborator on the public health specialization team of the National Science Foundation-funded project titled “Behavioral Heterogeneity and Uncertainty in Epidemiological Models”
- Regularly communicated with County Health Officials of New York leaders to engage local health departments in the Center for Disease Control and Prevention’s Data Modernization Initiative, which aims to provide resources for local health departments to better use mathematical and statistical models to forecast local health concerns
- Plan to build training modules for local health departments to learn these mathematical and statistical skills to improve public health planning on a local scale

**Intern – Northeast Regional Center for Excellence in Vector Borne Diseases**

May 2023-Present

- Plan, facilitate, and then execute thematic analysis for six focus groups with community members in Massachusetts, New York, and New Jersey to learn about risk perceptions and attitudes toward mosquito-borne illnesses
- Develop self-instructed intermediate skills in Atlas.ti qualitative analysis software, thereby improving independent research and technical training skills
- Prepare publication (expected submission in March 2024) to inform local mosquito control agency programming

**Graduate Student Researcher – Cornell University College of Veterinary Medicine**

Feb 2023–Present

*Primary Advisor: Dr. Lorin Warnick, Dean of the College of Veterinary Medicine, Cornell University, Ithaca NY*

- Conduct original research project on the role of veterinary diagnostic laboratories in the United States during COVID-19 response to develop recommendations for human health pandemic preparedness initiatives that promote the involvement of animal diagnostic facilities in future emergency responses
- Manage project from beginning to end by coordinating data collection instrumentation distribution to all American Association of Veterinary Medical Colleges and National Animal Laboratory Network member laboratories

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(approximately 76 institutions) in the United States, analyze survey responses in R statistical programming language, coordinate and facilitate 10 interviews, prepare manuscript for publication, facilitate editing process with co-authors, and submit final paper to *PLOS ONE* peer-reviewed journal

- Compile historic data via surveys and interviews on Cornell University's COVID-19 mitigation strategy for archival to inform future pandemic response

### **Graduate Student Assistant – OKB Hope Foundation**

Jan 2023-Present

- Developing interventions to increase mental healthcare accessibility in rural regions of Ghana by delivering mental health services in 5 schools, engaging Indigenous Faith Healers in mental healthcare provisions, developing a mental health clinic for a rural Ghanaian community, and piloting a community-based health insurance initiative
- Effectively work on interdisciplinary team consisting of collaborators from Ghana, United States, and United Kingdom by coordinating data analysis across all stakeholders
- Practice cultural humility by designing interventions that are appropriate for specific communities in Ghana by carefully considering cultural and social contexts
- Selected as one of thirty-four Student Multidisciplinary Applied Research Team fellows to receive funding to travel to Ghana in January 2024 to engage with Ghanaian healthcare policy leaders and Indigenous Faith Healers directly

### **Graduate Student Researcher – Cornell University Department of Public & Ecosystem Health**

Nov 2022-Sep 2023

*Primary Advisor: Dr. Kathryn Fiorella, Department of Public and Ecosystem Health, Cornell University, Ithaca, NY*

- Analyzed and interpreted survey responses from rural New York State residents using R statistical programming language to evaluate food acquisition changes due to the COVID-19 pandemic via nonparametric statistical tests
- Independently learned R statistical programming, with five months between project commencement and publication submission to *Frontiers in Nutrition Food Policy and Economics*

### **Undergraduate Student Researcher – Trinity University Department of Chemistry**

Dec 2018 - May 2021

*Primary Advisor: Dr. Adam Urbach, Department of Chemistry, Trinity University, San Antonio, TX*

- Designed and performed supramolecular studies to understand cucurbit[n]uril binding to intrinsically disordered peptides using Nuclear Magnetic Resonance, High Performance Liquid Chromatography, tandem Liquid Chromatography-Mass Spectrometry, and Isothermal Titration Calorimetry
- Projects included characterizing sequence-predictive binding of cucurbit[n]uril to alpha helices and synthesizing a cucurbit[n]uril hydrogel for drug-delivery applications

### **Student Researcher – University of Texas at San Antonio Health Science Center**

Jan 2014 - Mar 2018

*Primary Advisor: Dr. Susan Judge, Department of Biochemistry and Structural Biology, UT Health, San Antonio, TX*

- Conducted cancer research to evaluate East Indian Sandalwood Oil's effects as a TRPM7 ion channel inhibitor in numerous cancer cells lines, exploring its possible use as a therapeutic for gastric, oral, breast, and colon cancer
- Maintained numerous cancer cell cultures and conducted patch clamping, liquid chromatography and mass chromatography, and cytotoxicity assays
- Gained international recognition for research via President Obama's White House Science Fair, online and print press, San Antonio's Cancer Research and Therapy Center, and three-time awardee by the INTEL International Science and Engineer Fair

**PUBLICATIONS**

**Clements N**, Falcon MP, Sodhi RV, and Saleh MC. (2023). “Pro Se: Speech & Debate Mentoring Program for Justice-Impacted Youth Community-Engaged Learning Experiences of Cornell University Students.” *SUNY Journal of the Scholarship of Engagement: JoSE*. doi.

Coffin-Schmitt JL, **Clements N**, Marshall G, Liu L, Trombitas A, Wang Z, Yuan S, Safi AG, Hanson KL and Fiorella KJ (2023) Wild and backyard food use in upstate New York, United States during COVID-19. *Front. Nutr.* 10:1222610. doi: 10.3389/fnut.2023.1222610

Cha E\*, **Clements N\***, Hofman CR\*, Lavoie B\*, Van Zile A\*, Warden L\*, and Urbach AR. (2020). “Sequence-Predictive Recognition of Proteins and Peptides by Synthetic and Natural Receptors” in *Supramolecular Protein Chemistry*, Ed. Peter Crowley, 2020, Royal Society of Chemistry, Cambridge, in press. \*All authors contributed equally.

**PUBLICATIONS UNDER REVIEW**

**Clements N**, Diel DG, Elvinger F, Koretzky G, Siler J, and Warnick L. (*Under review for PLOS ONE; Submitted November X, 2023*). “The role of veterinary diagnostic laboratories during COVID-19 response in the United States.”

**PUBLICATIONS IN PROGRESS**

**Clements N**, Iwashita F, and Alistair Hayden. (*Manuscript Preparation in Progress*). “Preliminary Analysis of the Association between PFAS Exposure via Drinking Water and Sociodemographic Vulnerability in New York State.” (Expected submission December 2023).

Mader EM, **Clements N**, Lehane A, Crans S, Horton C, Gangloff-Kaufmann J, Safi AG, Harrington L. (*Manuscript Preparation in Progress*). “Analysis of Perceived Risks and Benefits of Mosquito Abatement and Personal Protection Strategies in Northeast Communities.” (Expected submission March 2024).

Addae-Kumi MM, Al-Adsani C, Chu K, **Clements N**, Fashemo S, Kinsler S, Robinson S, and Boateng O. (*Manuscript Preparation in Progress*). “Development of a Novel Healthcare Accessibility Program to Engage Indigenous Faith Healers in Mental Healthcare Services in Ghana.” (Expected submission May 2024).

**PRESENTATIONS**

- [Upcoming] “Evaluating PFAS exposure association with sociodemographic vulnerability in New York State.” **Nia Clements**, Alistair Hayden, Fábio Iwashita. 2024 Northeast Conference on the Science of PFAS: Human Health and the Environment. Marlborough, MA. April 2-4, 2024.
- “Community Perceptions of Government Mosquito Control Actions in the Northeast United States.” **Nia Clements**. Cornell University Department of Public and Ecosystem Health Annual Symposium. Cornell University, Ithaca, NY. November 8, 2023.
- “The Overlooked Pandemic: Medical Errors.” Brooke Bloom, **Nia Clements**, Ted Fox, Prachi Shah. Texas Doctors for Social Responsibility’s Public Health Lunch Seminar, San Antonio, TX. May 7, 2021.
- “The Overlooked Pandemic: Medical Errors.” Brooke Bloom, **Nia Clements**, Ted Fox, Rachel Poovathoor, Prachi Shah. Trinity University, San Antonio, TX, March 11, 2021.

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- “Cucurbit[n]urils as Tools for Protein Sensing.” Victoria Briggs, **Nia Clements**, Adam Urbach, Lois Warden. Chemistry Summer Research Symposium, San Antonio, TX, July 28, 2020.
- “Supramolecular Studies of Intrinsically Disordered Peptides.” **Nia Clements** and Adam Urbach. Chemistry Summer Research Symposium, San Antonio, TX, July 31, 2019.
- “Sequence-Predictive Recognition of Polypeptides by Cucurbit[n]urils.” Erin Cha, **Nia Clements**, Cristina Hofman, Brylee Lavoie, Adam Urbach, Lois Warden, Anna Van Zile. 2019 International Conference on Cucurbiturils, Athens, OH, July 21-24, 2019.
- “Fighting Cancer on Two Fronts.” **Nia Clements**. TEDxTrinityUniversity, San Antonio, TX, March 23, 2019.
- “An Investigation of East Indian Sandalwood Oil (EISO)’s Mechanism of Inhibition in AGS Gastric Cancer Cells: A Patch Clamp Student of TRPM7 Ion Channels.” **Nia Clements**. Center of Innovative Drug Discovery Meeting, San Antonio, TX, 2016.

### AWARDS

#### **3rd Place Award – OKB Hope Foundation Global Healthcare Case Competition | Somerset, NY** October 2022

- Led an interdisciplinary team comprised of 3 New York and Ghanaian students to develop an innovative strategy to improve mental health among residents of the Upper West Region of Ghana
- Develop executive summary and oral presentation to describe 5 year intervention plan, program indicators of success, \$350,000 budget use, and data gathered from the community

#### **Invitational Speaker – TEDx Trinity University | San Antonio, TX** April 2019

- Presented speech titled “Facing Cancer on Two Fronts” as published on official TEDx Talks Youtube page

#### **Louis H. Stumberg Venture Competition Finalist – Trinity University | San Antonio, TX** March 2019

- Pitched heARTful, non-profit company that aims to bring interactive art to special needs community of San Antonio, TX, while empowering local artists
- Selected as finalist and awarded \$5,000 seed funding and mentorship through MIT’s Venture Mentoring Services

#### **White House Science Fair – President Obama, Former President of the United States | Washington, DC** April 2016

- Invited as 1 of 36 students nationally to present scientific research at White House
- Discussed cancer research with Vice President Joe Biden, Bill Nye the Science Guy, Adam Savage from *Mythbusters*, Dr. Francis Collins of National Institutes of Health, and members of Food & Drug Administration

#### **2016 Distinguished Science Award – Cancer Therapy and Research Center | San Antonio, TX** June 2016

- Recognized for distinguished cancer research
- At awards ceremony, orally presented cancer research to 40+ research scientists and physicians

#### **Other Distinguished Science Awards**

- BioBridge Global (2015, 2017)
- American Physiological Society (2015, 2017)
- United States Air Force (2015, 2016)
- United States Navy (2015)
- Diagnostic Clinical Research Group (2017, 2018)
- The Society of *in-vitro* Biology (2017)

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### PRESS

[Featured in Trinity University's article "From Nye to Nia"](#) (2018)

[Featured in San Antonio Express News article "Trinity Freshman Searches for Cancer Treatments"](#) (2018)

[Featured in The Bill Nye Documentary by Structure Films](#) (2017)

Cover Story of SMORE Magazine, a magazine to inspire young girls to pursue science (2017)

Featured in issue of Inventors Digest Magazine (2013)

### SELECTED PROJECTS

#### ***Student Grant Writer – OKB Hope Foundation | Somerset, NJ***

Jan 2023-Present

- Advance project goals through grant writing for OKB Hope Foundation's mental health initiative that serves to innovatively increase healthcare accessibility for rural residents in the Upper West Region of Ghana
- Submitted grants to Cornell University Center for Health Equity, Grand Challenges Canada, and Netherlands Albert Schweitzer Funds, among others

#### ***Student Consultant – Cornell University Department of Public and Ecosystem Health | Ithaca, NY***

Jan 2023-May 2023

- As part of *Public Health Practice – Planning* course, wrote a Building Resilient Infrastructure and Communities FEMA-style grant for New York State's Office of Resilient Homes & Communities titled "Community-Informed Planning to Increase Flood Resilience in Binghamton, New York"
- Developed a \$1M grant proposal for a 3-year project to equitably increase flooding resiliency among Binghamton, New York, residents via a participatory planning process

#### ***Student Consultant – Cornell Cooperative Extension of Chemung County | Elmira, NY***

Jan 2023

- Authored literature review to explore community context for the disproportionately high poverty rate in Chemung County, New York, and advocated for evidence-based poverty alleviation interventions
- Presented poverty-reduction recommendations to the Chemung County Poverty Reduction Coalition

#### ***Coordinator – Texas Patient Safety Initiative | San Antonio, TX***

Oct 2020-Aug 2022

- Collaborated with hospital Chief Executive Officer to create initiative that advocates for patient safety education
- Founded health literacy program by creating 3 questionnaires to be used in primary care facilities with goal of empowering individuals to advocate for their health; questionnaires were piloted in California low-income primary care clinics

#### ***Site Organizer – Frontline Foods & World Central Kitchen | San Antonio, TX***

Mar 2020-Mar 2021

- Organized San Antonio chapter of Frontline Foods with 4 volunteers to prevent job insecurity for local restaurant workers and feed frontline workers during the COVID-19 pandemic
- Coordinated delivery of 10,000+ meals in San Antonio to metropolitan hospitals, firefighters, and hurricane evacuees and distributed \$100,000+ to local restaurants to prevent job insecurity
- Reinstated organization to deliver 11,000+ meals to underserved communities in San Antonio during historic snowstorm; featured by local government, media, and celebrities who helped hand-deliver meals

#### ***Cofounder & Vice President of Operations – heARTful | San Antonio, TX***

Oct 2018 - May 2019

- Co-founded heARTful, a non-profit organization, to bring interactive art exhibits to San Antonio's special needs community while empowering local artists

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- Conducted community-based research by interviewing organizations and individuals in special needs spaces
- Collected data to design interactive art exhibits which were then tested in community

### TEACHING AND MENTORSHIP

**Incoming Teaching Assistant – Cornell University Department of Science and Technology Studies** Spring 2024  
*Course: STS3111 – Social Studies of Medicine*

**Incoming Course Assistant – Cornell University Department of Public and Ecosystem Health** Spring 2024  
*Course: VTPEH 6113 – Advanced Epidemiology*

**Teaching Assistant – Cornell University Department of Science and Technology Studies** Fall 2023  
*Course: STS 2051 – Ethical Issues in Health and Medicine*

- Design and lead two weekly discussion sections (~35 undergraduate students total) to help students engage with ethical texts and participate in skill-building activities
- Support upper class-level undergraduate students through writing process, from ideation to polished papers
- Host one-on-one office hours for all course students (~170 undergraduate students total) to guide students through course material in preparation for exams

**Course Assistant – Cornell University Department of Public and Ecosystem Health** Fall 2023  
*Course: VTPEH 6104 – Epidemiology in Practice*

- Guide first year Master of Public Health candidates through epidemiological principles via one-on-one office hours
- Grade course quizzes, epidemiological study proposals, public health communication flyers, and study abstracts

**Mentor for Refugees from Afghanistan – Self-Motivated** May 2023-October 2023

- Advise refugee from Afghanistan during one-on-one weekly sessions to build writing skills in preparation for application to higher education institutions

**Graduate Student Assistant – Cornell University School of Industrial and Labor Relations** Oct 2022-Jun 2023

- Coached justice-involved youth in New York State for a prison diversion program
- Advised youth one-on-one to promote self-empowerment and self-advocacy, developed questionnaires to measure program outcomes and impact, and implemented standardized tools for coaches to assess during-program progress
- Published peer-reviewed manuscript to describe experiences

**Teaching Assistant – Trinity University Department Biology** Fall 2020  
*Course: BIOL2312 – Cells & Cell Systems*

- Collaborated with teams of 2 professors and 3 other students to provide one-on-one office hours, special topics review sessions, and supplemental lectures and attended lectures 3 times per week in addition to outside course help for approximately 150 students

**Teaching Assistant – Trinity University Department of Chemistry** Spring 2020  
*Course: CHEM 2319 – Organic Chemistry I*

- Collaborated with team of 1 professor and 1 other student to provide one-on-one office hours, special topics review sessions, and supplemental lectures and attended lectures 3 times per week in addition to outside course help

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### ***Academic Tutor – Self-Employed***

Jan 2015-Present

- Maintain 4 long-term clients ages 11-14 for tutoring in all middle and school subjects

### **LEADERSHIP EXPERIENCE**

#### ***Campus Ambassador – Planetary Health Alliance | Baltimore, MD***

Dec 2022-Present

- Develop planetary health curricula for higher education institutions that centers on Indigenous stories
- Address lack of awareness of the disproportionate burden of climate change and exploitative business practices on indigenous communities to promote environmental justice through project

#### ***Project Leader – OKB Hope Foundation Global Healthcare Case Competition | Somerset, NJ***

Oct 2022-Present

- Lead an interdisciplinary team comprised of Ghanaian students to develop an innovative strategy to improve mental health among residents of the Upper West Region of Ghana
- Develop executive summary and oral presentation to describe 5 year intervention plan, program indicators of success, \$350,000 budget use, and data gathered from the community that was awarded 3rd place

#### ***Volunteer Coordinator – El Bari Community Health Clinic | San Antonio, TX***

Apr 2022-Sep 2023

- Appointed as administrative leader to coordinate medical volunteers and physicians each weekend at clinic serving community members without insurance and experiencing poverty
- Communicate closely with both patients, physicians, and volunteers at the clinic to ensure smooth operations and delivery of a good quality healthcare experience

### **COMMUNITY SERVICE**

#### ***Executive Board Chair of Community Service – Graduate Students in Public Health | Ithaca, NY***

Oct 2022-Present

- Orchestrate community service activities to engage Cornell Master of Public Health candidates with the local community and provide professional development events
- Use position to advance diversity, equity, and inclusion initiatives, such as through grants for inclusion initiatives
- Co-founded journal club that met bi-weekly to provide learning opportunities for Master of Public Health candidates to engage in academic literature with program faculty members

#### ***Medical Volunteer – El Bari Community Health Clinic | San Antonio, TX***

Jan 2021-Apr 2022

- Operated as triage each Saturday to prepare patients for their health appointments, both online and in-person at weekend clinic serving community members without insurance and who are below federal poverty line
- Represented the clinic at COVID-19 vaccine drives and organizing member of 2022 Community Health Fair

#### ***Administrative Volunteer – Guardian House | San Antonio, TX***

Jan 2021-Jul 2022

- Prepared case files for weekend clinic hours at safe space for low-income children and adults to receive free mental health care, reunification counseling, and parenting lessons for 3 hours per week
- Conducted satisfaction surveys and compiled demographic and case data for audits and federal grant reports

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## GRANT AND SCHOLARSHIP FUNDING (FUNDED)

Serve in Place Fund | Cornell University Einhorn Center for Community Engagement (\$1,000)  
Applied Practice Funding | Cornell University Department of Public and Ecosystem Health (\$1,000)  
Global Game Changer Scholar | Cornell University Department of Public and Ecosystem Health (\$10,000)

## GRANT AND SCHOLARSHIP FUNDING (NOT FUNDED)

Health Equity 2023 Pilot Research Projects for Health Equity | Cornell Center for Health Equity (\$28,805)

## GRANT AND SCHOLARSHIP FUNDING (PENDING)

Water Resources Research and Outreach | New York State Water Resources Institute (\$30,396)

## TECHNICAL SKILLS

**Qualitative:** Atlas.ti (intermediate), Qualtrics (intermediate)

**Quantitative:** R (intermediate), STATA (novice), SPSS (novice), qGIS (novice)

## RELEVANT COURSEWORK

(G = graduate coursework | UG = undergraduate coursework)

### ***Epidemiology, Biostatistics, and Other Mathematical Coursework***

Advanced Epidemiologic Methods (G)  
Epidemiology in Practice (G)  
Epidemiology Seminar Series (G)  
Infectious Disease Epidemiology (G)  
Biostatistics for Health Sciences (G)

Applied Data Analysis I and II (G)  
Statistics and Methods (UG)  
Calculus I and II (UG)  
[Informal audit] Calculus III (UG)

### ***Public Health Coursework***

Disease Surveillance and Response (G)  
Public Health Communication (G)  
Public Health Monitoring and Evaluation (G)  
Public Health Foundations I and II (G)

One Health - Planetary Health (G)  
Infectious Disease and Health (G)  
Public Health Assessment (G)

### ***Other Science Coursework***

General Chemistry & Laboratory (UG)  
Advanced Chemical Principles Lab (UG)  
Organic Chemistry I and II (UG)  
Laboratory Methods in Organic Chemistry (UG)  
Chemical Synthesis Laboratory (UG)  
Advanced Topics in Chemistry (UG)  
Physical Chemistry I (UG)  
Biochemistry I and II (UG)  
Biochemistry Laboratory (UG)

Biochemistry & Molecular Biology Seminar (UG)  
Integrative Biology & Laboratory (UG)  
Genes, Phenotypes, and Evolutionary Dynamics (UG)  
Cells and Cell Systems & Laboratory (UG)  
Molecular Biology (UG)  
Genetics (UG)  
General Physics I and II (UG)  
Introductory Physics Laboratory (UG)  
Intermediate Physics Laboratory (UG)