Yahriel Salinas-Reyes

The GEM Consortium, Ph.D. Engineering and Science Fellowship

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Date: 06/13/2024
Hiring Committee
Public Health Laboratory Fellowship Program

Public Health Laboratory Fellowship Program Review Committee,

I am writing to express my enthusiastic interest in the Public Health Laboratory Fellowship Program, as advertised. With a background deeply rooted in data science and bioinformatics, and having conducted extensive research in computational neuroscience, I am eager to leverage my skills and knowledge to contribute effectively to your esteemed program.

Throughout my tenure as a Scientist I & Data Engineer at Bayer Crop Science, within the R & D Regulatory Science Toxicology Group, I have been at the forefront of integrating cutting-edge technologies to enhance regulatory compliance and data-driven decision-making processes. My role involves designing and implementing robust data mining pipelines to ensure the integrity and efficiency of bioinformatic data management systems. This experience has equipped me with a strong foundation in handling complex datasets critical for public health research, aligning perfectly with the objectives of your fellowship program.

My academic journey has been equally focused on advancing scientific inquiry. Currently pursuing a Doctorate in Neuroscience with a specialization in Computational and Data-enabled Sciences, my research centers on developing novel algorithms to analyze neural data, aiming to uncover insights into brain function and disease mechanisms. This interdisciplinary approach not only underscores my commitment to scientific exploration but also highlights my proficiency in applying computational methodologies to biological questions—a skillset directly applicable to public health challenges addressed by your fellowship.

Moreover, my contributions extend beyond technical expertise. I have collaborated effectively within multidisciplinary teams at Bayer, enhancing project outcomes through cross-functional cooperation and innovative problem-solving. These experiences have nurtured my leadership and communication skills, essential for fostering collaborative research environments—a hallmark of successful public health initiatives.

By participating in the Public Health Laboratory Fellowship Program, I aim to further enrich my skill set with hands-on experience in epidemiological research, molecular diagnostics, and public health policy analysis. This opportunity aligns seamlessly with my long-term career goal of bridging computational sciences with public health interventions, ultimately contributing to evidence-based decision-making in healthcare settings.

In conclusion, I am excited about the prospect of bringing my expertise and enthusiasm to your fellowship program. I look forward to the opportunity to discuss how my background and aspirations align with the goals of your organization. Thank you for considering my application.

Looking Forward to Hearing From You,

Yahriel Salinas-Reyes

Attached: curriculum vitæ

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Education

Iowa State University of Science & Technology **Ames**
Bachelor of Aerospace Engineering, *GPA: 3.3* *2023*
Specialized in Nanoscience/materials, Computational & Mathematical Sciences, Controls/Dynamical Systems, Soft Matter Physics

Work Experience

Bayer Crop Science, Seeds & Traits Safety: R & D Regulatory Science Toxicology Group **St Louis, MO**
Scientist I & Data Engineer *05/2024- Present*

- Engage in cutting-edge research in agricultural science and biotechnology in the Seeds & Traits Regulatory Science Group at Bayer, assist the Toxicology team with an automation system for regulatory reponses and data inpit for global clients. Responsible for data mining pipeline, and general knowledge transfer of bioinformatic data.

DARPA: Recovering Rare-Earth Elements from E-Waste **Ames, IA**
Research Assistant & Lab Technician *05/2022- 12/2023*

- Executed pivotal roles in DARPA's mission to recover rare-earth elements from electronic waste, employing innovative research techniques and laboratory methodologies to address critical environmental and technological challenges.

The Microscale & Interfacial Fluid Physics Laboratory **Ames, IA**
Experimental Systems & Automation Engineer *08/2021- 12/2023*

- Demonstrated expertise in experimental systems and automation engineering at the Microscale & Interfacial Fluid Physics Laboratory, contributing to groundbreaking research in fluid dynamics and interfacial phenomena.

The Soft Matter Material Transport Group **Ames, IA**
Undergraduate Researcher & Systems Engineer *08/2019- 05/2022*

- Played a key role in the Soft Matter Material Transport Group's research initiatives, focusing on the design and optimization of multi-functional piezoelectric devices for aeronautical applications, showcasing skills in systems engineering and materials science.

Caltech The Kavli Nanoscience Institute: The Julia R. Greer Group **Pasadena, CA**
Undergraduate Research Assistant *05/2022- 08/2022*

- Contributed to research efforts at Caltech's Kavli Nanoscience Institute, collaborating with the Julia R. Greer Group on the development of hybrid nanocomposites and the investigation of viscoelastic behavior, highlighting capabilities in nanomaterials synthesis and characterization.

Boeing: Wind Energy & Development **Ames, IA**
Boeing Aerospace Research Fellow *08/2021- 08/2022*

- Served as a Boeing Aerospace Research Fellow, spearheading projects in wind energy research and development, with a focus on characterizing damping mechanisms in piezoelectric wind-energy harvesters, demonstrating expertise in aerospace engineering and renewable energy technologies.

Stanford University: Xiaolin Zheng Z-Energy Group **Stanford, CA**
Undergraduate Research Assistant *05/2021- 08/2021*

- Engaged in research endeavors at Stanford University's Z-Energy Group, investigating the application of machine learning techniques in scientific methodologies and prediction, showcasing proficiency in data-driven research and computational modeling.

Iowa State University of Science & Technology **Ames, IA**
Information Technology Specialist & Data Scientist *08/2019- 05/2023*

- Provided technical expertise as an Information Technology Specialist and Data Scientist at Iowa State University of Science & Technology, contributing to the implementation, monitoring, and maintenance of IT systems while leveraging data science techniques for analysis and decision-making.

Key Projects

1. *Risk Characterization of Toxicological, Hazardous, and Nutritional Bioinformatic Data* **May 2024 - Present**
Regulatory Science Group in Seeds and Traits Safety Division / (Mentor: Dr. Kimberly Hodge-Bell) *Bayer Crop Science*

- Analyzed and interpreted bioinformatic data to assess toxicological, hazardous, and nutritional risks.
- Ensured compliance with global regulatory safety guidance such as the European Food and Safety Agency (EFSA).
- Developed risk characterization models to predict potential safety concerns.
- Collaborated with interdisciplinary teams to enhance data accuracy and reliability.
- *Keywords: Toxicology, Hazard Assessment, Nutritional Data, Regulatory Compliance, Bioinformatics*

2. *Automation of Procedural Systems and Experimental Bioinformatic Data* **May 2024 - Present**
GEM Fellow / Crop Field Protection Digital Solutions Automation & Pipeline Design *Bayer Crop Science*

- Implemented automation systems for procedural and experimental bioinformatic data management.
- Managed toxicological information and hazardous exposure assessments from field tests and trials.
- Integrated data from internal and external studies to support global clients.
- Enhanced efficiency and accuracy in data collection and processing.
- *Keywords: Automation, Bioinformatic Data, Toxicological Information, Exposure Assessments, Data Integration*

3. *Data Mining and Automation Pipeline Design for Historical Regulatory Responses* **May 2024 - Present**
GEM Fellow / R & D Regulatory Science Group Digital Solutions Automation & Pipeline Design *Bayer Crop Science*

- Designed data mining and automation pipelines to ensure data integrity.
- Analyzed historical regulatory response data for global scientific and food safety agencies.
- Developed systems to support the assembly of dossiers before product launch.
- Improved the accuracy and reliability of regulatory data submissions.
- *Keywords: Data Mining, Automation, Data Integrity, Regulatory Responses, Pipeline Design*

4. *Development Operations (DevOps) for Historical Data Transfer and Compliance* **May 2024 - Present**
GEM Fellow / Software & Data Engineering, Regulatory Macromolecular Toxicology Team *Bayer Crop Science*

- Managed the transference of historical data related to search query data of regulatory responses and submissions.
- Ensured compliance with strict global guidelines and document version management.
- Implemented cybersecurity measures to protect controlled data.
- Streamlined document management processes to enhance efficiency and security.
- *Keywords: DevOps, Data Transfer, Compliance, Document Management, Cybersecurity*

Relevant Scholarly Projects and Experience

1. *Synthesis of Phase-change Particles and Applications of MEMS* **April 2020 - August 2021**
(Research Assistant / Mentor: Dr. Martin Thuo) *NSF Award No. 1757393, Iowa State University*

- Collaborated closely with Dr. Martin Thuo to develop novel materials with unique properties, focusing on phase-change materials and their applications in MEMS technology an integrative systems including flexible biomedical devices.

2. *Predictive Modeling of Bioinformatics Data to Inform Olympic Performance* **August 2021 - January 2022**
(Research Assistant / Mentor: Dr. Xiaolin Zheng) *Stanford University, Z-Energy Lab*

- Investigated predictive models using machine learning techniques to forecast performance of olympic athletes results based on data collection, model training, and result interpretation, showcasing expertise in data-driven research.

3. *Energy Absorption in Nano-Architected Hybrid Composites* **August 2022 - January 2023**
(Research Assistant / Mentor: Dr. Julia R. Greer) *The Greer Group, The Kavli Nanoscience Institute*

- Investigated energy absorption mechanisms in nano-architected hybrid composites and contributed to experimental designs, conducted mechanical tests, and analyzed data, demonstrating proficiency in scientific instrumentation.

4. *Sociological Diff. in Motivation of Diverse Identities* **July 2021-May 2022**
(McNair Scholar / Mentor: Dr. Ashley Garrin) *Ronald E. McNair Post-Bacc Achievement Program*

- Constructed an experimental framework, analyzed scientific literature, and carried out a scientific investigation.
- Analyzed and interpreted results in a technical manner in preparation courses and experiences for doctoral studies.

Fellowship Awards

Program	Institution/Board	Year
*GEM Ph.D. Fellowship** (Sci.&Eng.)	The National GEM Consortium*	2024-2029*
P.B.C. (McNair Scholars)	Ronald E. McNair Postbaccalaureate Achievement Program	2021-2023
P.B.C. (Research Certificate)	Louis Stokes Alliances for Minority Participation (LSAMP)	2019-2021
Cert.(Order of The Engineer)	Engineering Accreditation Commission of ABET	2023

Research and Development Projects

1. *Experimental Techniques: Flow Separation & Chemical Sintering* **August 2019 - August 2023**

B.Tech / (Prof: Dr. Martin Thuo, Dr. Thomas Ward) *Iowa State University of Science & Technology*

- Developed hardware-software components and signal processing circuits for detecting flow instabilities in paper-based MEMS devices.
- Conducted experiments to manufacture MEMS nanocomposites and modeled shear viscosity.
- Aimed to simulate viscosity measurements at the thermal boundary for potential applications in aerospace.
- *Keywords: Systems Analysis, Interfacial Phenomena, Computational Modeling & Analysis, Navier Stokes Equations*

2. *Damping Mechanisms in Piezoelectric Wind-Energy Harvesters* **August 2021 - August 2022**

Research Fellow / Mentor -(Prof: Dr. Thomas Ward Dept. of Aerospace Engineering, ISU) *Boeing Aerospace*

- Implemented automation systems for procedural and experimental bioinformatic data management.
- Managed toxicological information and hazardous exposure assessments from field tests and trials.
- Integrated data from internal and external studies to support global clients.
- Enhanced efficiency and accuracy in data collection and processing.
- *Keywords: Automation, Bioinformatic Data, Toxicological Information, Exposure Assessments, Data Integration*

3. *Energy Absoption in Nano-Architected Hybrid Composites* **May 2022 - August 2022**

Prof: Dr. Julia R. Greer of Materials Science, A. Mechanics, & Medical Sciences Caltech, Kavli Nanoscience Institute

- Designed data mining and automation pipelines to ensure data integrity.
- Analyzed historical regulatory response data for global scientific and food safety agencies.
- Developed systems to support the assembly of dossiers before product launch.
- Improved the accuracy and reliability of regulatory data submissions.
- *Keywords: Data Mining, Automation, Data Integrity, Regulatory Responses, Pipeline Design*

4. *Meta-stable Particles: Phase-change Materials and their Applications* **August 2019 - May 2022**

Prof: Dr. Martin Thuo Dept. of Materials Science and Engineering, ISU *NSF-LSAMP*

- Managed the transference of historical data related to search query data of regulatory responses and submissions.
- Ensured compliance with strict global guidelines and document version management.
- Implemented cybersecurity measures to protect controlled data.
- Streamlined document management processes to enhance efficiency and security.
- *Keywords: DevOps, Data Transfer, Compliance, Document Management, Cybersecurity*

Industrial Training

1. *Boeing Undergraduate Research Excellence in Engineering Internship* **Dec 2020 - Dec 2021**

(B.Tech / Intern / Mentor: Dr. Thomas Ward)

- Engaged in an intensive internship program at Boeing, gaining hands-on experience focused on wind energy harvesting, green technologies, & enhancing engineering excellence in aerospace applications. Collaborated with industry professionals on cutting-edge projects aimed at advancing aerospace technology and innovation.

2. *NASA Micro-G Neutral Buoyancy Experiment Design Teams Challenge* **Oct 2021-Nov 2022**

(B.Tech / Design Team Lead / Mentor: Dr. Tomas Gonzalez-Torres)

- Took part in a challenging design competition organized by NASA, focusing on developing innovative solutions for space exploration challenges. Worked in a multidisciplinary team environment to design, build, and test a prototype device, gaining valuable practical experience in problem-solving and teamwork

Online Courses

- Deep Learning: *Data Structures and Algorithms in Python* (May 2021), *Deep Learning with PyTorch: Zero to GANs* (Jan 2021), *Data Analysis with Python: Zero to Pandas* (Oct 2020)
- MathWorks: *Machine Learning with Matlab (June 2020)*, *Matlab Onramp* (May 2022), *Deep Learning Onramp* (May 2021), *Machine Learning Onramp* (May 2021), *Deep Learning with Matlab (May 2022)*

Course Work

1. Key Courses **August 2019-December 2023**

(Core and electives) *Iowa State University: College of Engineering*

- Courses: Applied Mechanics & Physics, Materials Science & Engineering, Engineering & Polymeric Chemistry, Engineering Statistics, Machine-Learning/Data-Science, Finite Element Method, Bayesian Methods, Systems Engineering
- Lab: Numerical & Graphical Techniques, Advanced Computing, Advanced Programming Languages in Linux, C++

Technical Skills

- Programming: C, C++, Java, Python, CAD & FEA, ANSYS/ABAQUS, MATLAB & Simulink, SAS, R, CFD
- Other: SQL, Windows OS, Linux OS, AWS Services, Statistical Methods, Iot, Computational Modeling, ML

Achievements/Awards

- Finalist of The Fulbright-National Geographic Award, Open Study/Research Award
- Complete funding confirmed upon admission to Ph.D. Program*.The GEM Ph.D. Engineering & Science Fellowship*.

Declaration

I do hereby declare that all the details furnished above are true to the best of my knowledge and belief.

References

Reference I: Dr. Martin Thuo
Professor of Materials Science and Engineering
North Carolina State University
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Engineering Building I Raleigh NC 27695-7907
Email: mthuo@ncsu.edu
Phone: (617)458-2363
Web:https://www.mse.ncsu.edu/thuo/

Reference II: Dr Thomas Ward
Professor of Mechanical and Aerospace Engineering
University of Virginia Engineering
Thornton Hall, 351
McCormick Road,
Charlottesville, VA 22904
Email: hgw8rs@virginia.edu
Phone: (434) 924-3072

Reference III: Dr. Lequetia Ancar
Director of Multicultural Student Success, Assistant Director of Engineering Student Services
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Yahriel Salinas-Reyes

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Education: **Iowa State University of Science & Technology, Ames, IA | Bachelor's of Aerospace Engineering '23**

Senior Capstone Project | Iowa State University of Science & Technology | 12/2022-11/2023

Description: Fundamental principles used in engineering design of aircraft, missile, and space systems. Preliminary design of aerospace vehicles. Engineering Ethics.

Target Objective: "Modern Design Methodology with Aerospace Application & Design of Aerospace Systems"

- Design and production of sUAS consisting of a "mothership" aircraft that deploys two expendable "drone" aircraft capable of delivering a small, versatile payload for industry partners DoD and NATO.
- Implemented machine vision systems, industrial controls, automatic identification & data capture, and responsible for providing data-driven decisions as the signals & control systems/electronics lead.
- Utilized systems engineering and aerospace techniques to optimize aircraft design features, dynamic & static stability, and aerodynamic performance of the small, unmanned aircraft system (sUAS).

Learning Outcomes: Upon completion, the individual will have reliably demonstrated the ability to:

- Apply the engineering design process with regards to aerospace vehicles.
- Utilize necessary tools in the engineering design process including computer modeling/simulation and experimentation to help develop the design.
- Function effectively on a small team by establishing leaders and member roles, project goals, and a timeline all in a collaborative and inclusive setting.
- Communicate effectively in formal and informal settings through written and/or oral means.

Relevant Topics and Courses/Curriculum

- Thermodynamics, Flight Dynamics & Controls, Astro-aeronautics, Aerospace & Propulsion Systems

- Applied Mechanics & Physics, Materials Science & Engineering, Engineering & Polymeric Chemistry

- Numerical & Graphical Techniques, Advanced Computing, Engineering Statistics, Multi-Variable Calculus

- Classical Physics, Mechanics of Materials, Engineering Statics, Dynamics & Differential Equations

- Machine-Learning/Data-Science, Computer Science & Information Tech. Systems, Software Engineering

- Technical Communication & Proposal Writing, Scientific Manuscript Writing, Literary Analysis & Review

Relevant Software Experience and Technical Skills

- SQL, Windows OS, Linux OS, AWS Services, Java, C/C++/C# Programming, Python, MATLAB & Simulink, SAS

- CAD & FEA, ANSYS/ABAQUS, Systems & Reverse Engineering, Internet of Things, Design of Experiments

Research and Development Experience

Undergraduate Research Assistant | DARPA - Microscale & Interfacial Fluid Physics Lab | 08/2021-08/2023

Faculty mentor Dr. Thomas Ward II, Associate Professor, Department of Aerospace Engineering, ISU

- Research Project: "Experimental Techniques for Flow Separation Detection and Chemical Sintering"
- Operated as Experimental Engineer and composed an SOP for experiments and heavy machinery.
- Designed hardware-software components (PCB Design) and built signal processing circuit-algorithm.
- Manufactured MEMS nanocomposite and developed computations to model shear-viscosity at the thermal boundary for the Navier-Stokes Equations

California Institute of Technology Summer Undergraduate Research Fellow | Greer Group | 05/2022-08/2022

Faculty mentor Dr. Julia Greer, Assoc. Prof. of Materials Science, A. Mechanics, & Medical Sciences, Caltech

- Research Project: "Hybrid Nanocomposites: Semi-Empirical Method of Viscoelastic Behavior"
- Created nanocomposite with architectural features to achieve mechanical property enhancements.
- Investigated the constituent material systems individually using compressions tests on a dynamic mechanical analyzer and observed deformation zones with scanning electron microscopy.
- Developed a semi-empirical model for the deformation mechanisms observed in post-mortem analysis of samples; this enables FEA & Euler Theory to inform the viscoelastic continuum damage model.

McNair Scholar | Ronald E. McNair Post-Baccalaureate Achievement Program | 09/2021-05/2022

Faculty mentor Dr. Ashley Garrin, Director of Ronald E. McNair Program, Graduate College, ISU

- Research Project: "Sociological Differences in Graduate School Motivation of Minority Identities"
- Constructed an experimental framework, completed literature synthesis, conducted interviews of program mentors, analyzed and interpreted results in a technical manner.
- Participated in preparation courses and experiences for **doctoral studies** through involvement in research and other scholarly activities.

Undergraduate Researcher, Systems Engineer | Soft Matter Material Transport Group | 08/2019-05/2022

Faculty mentor Dr. Martin Thuo, Associate Professor, Department of Materials Science and Engineering, ISU

- Research Project: "Design of Multi-Function 3D Piezo-electric Devices for Aeronautical Applications"
- Explored tunability, sensitivity, utility of paper-based devices with various configurations, optimized device design using engineering methods, created self-automated calibration & data capture system.
- Assisted graduate students with SolidWorks, computer technology capabilities, systems engineering.
- ***This research work was submitted to a scientific peer-review journal for publication(2023)***.

Research Fellow | Boeing Undergraduate Research Excellence in Engineering Internship | 08/2021-08/2022

Faculty mentor Dr. Thomas Ward II, Associate Professor, Department of Aerospace Engineering, ISU

- Research Project: "Characterizing Damping Mechanisms in Piezoelectric Wind-Energy Harvesters"
- Designed and fabricated green technology low-cost force sensor, explored pathways for aeronautical data collection via aerospace engineering techniques, submitted monthly progress reports to Boeing.
- ***This research work was submitted to a scientific peer-review journal for publication(2023)***.

Stanford University Summer Undergraduate Research Fellow | Zheng Research Group | 05/2021-08/2021

Faculty mentor Dr. Xiaolin Zheng, Associate Professor, Mechanical Engineering, Stanford University

- Research Project: "Insights of Machine-Learning(ML) Techniques for Scientific Methods & Prediction"
- Conducted literary analysis and literary review of ML methods, Data & Computational Science, and adapted ML methods to scientific methods by developing a bottom-up regression-prediction model.
- Cross-validated various mathematical-kernels(SVM, Random-Forest, etc.) fitted/trained with scientific datums; presented findings in optimizations of experimental design for scientific discovery.

Undergraduate Research Certificate Recipient |IINSPIRE-LSAMP(NSF) Scholars Program| 08/2019-09/2020

Faculty mentor Dr. Martin Thuo, Associate Professor, Department of Materials Science and Engineering, ISU

- Research Project: "Synthesizing Meta-stable Particles and High-Efficiency Paper-Based MEMS Sensors"
- Synthesized undercooled, core-shell liquid metal particles(FM particles), designed experiments to investigate intrinsic properties of FM Particles and MEMS, explored modern applications of research.
- Prepared literary review of current state of sensor technology, did deep literary analysis of relevant science engineering research, produced adaptations of MEMS designs to fulfil gaps in research field, presented ideation of low-cost, green technology, sensor devices for industry and social impact.

Additional Professional and Leadership Experiences

Design Team Lead |NASA Micro-G Neutral Buoyancy Experiment Design Teams Challenge |08/2021-12/2022

- Completed and assigned weekly tasks to design, build, and test a tool or device that addresses an authentic, current space exploration challenge; specifically, Extravehicular activity(EVA).
- Completed research in current technologies and lead: prototyping of device components; CAD modeling & reverse engineering; building of prototype; and submitted proposal to competition.
- ***Our design was utilized by astronaut-scientists in NASA's Mission to the Moon and Mars and displayed at the Houston exhibition – Inner Space: NASA's Path to the Moon and Mars(2022)!***

Information Technology Specialist | Iowa State University of Science & Technology | 08/2019-05/2023

- Held responsibilities for the implementation, monitoring, and maintenance of IT computer systems.
- Solved technical problems: computer systems, software, hardware, networks, cloud platforms, etc.
- Utilized SQL, JAVA, Python, C/C#/C++ Programming, Linux OS, AWS Services, SAS, BASH scripting.

Community Engagement, Public Relations & Policy, and Social Work

Residential Advisor and Honors Community Leader | Department of Residence | 08/2020-05/2022

- Engaged students & nurtured healthy-positive experiences for the resident community; moderated meetings to address concerns; directed multi-lingual health & resource programming for college.

Youth-Lobbyist |Iowa Department of Human Rights: State of Iowa Youth Advisory Council | 06/2018-12/2021

- Acted as chair/program-coordinator of the Violence-Prevention & Diversity-Education Program.
- Advocated to state legislators for reformation of violence prevention education & implementation of culturally diverse curriculum standards at the state-local level; wrote & proposed bills to chamber.
- ***Received the Community Service Leadership Award for completing over 200 service hours in a term.***

Stewardship and Service

Community Leader & Multi-lingual Ambassador/Educator | CultureAll Educational Nonprofit | Fall 2023

- Assisted in organizing events to engage local educators and institutional leaders at the state and local level, provided developmental and networking opportunities for young professionals, volunteered at local events to provide diversity education to communities or groups in need.

Community Honors Leader | Iowa State University Honors Program | Fall 2020-Spring 2022

- Provided professional and research development resources to the Honors Program and its honors students, acted as mentor to honors students while the Honors Residential Advisor.

Coordinator of Violence Prevention & Educational Coverage | Iowa Non-Profits | Spring 2020-Summer 2020

- Utilized skills and experience in community social work to lead interns in creating mental health resources/content in multiple languages; distributed resources and content to local youth of color during the pandemic and rise in violence of 2020.

Latinx Forum Panelist & Multi-lingual Advocate | Association of Iowa Latinx Professionals | Fall 2020

- Shared my professional experience and pathway as a First-Generation College Student, answered questions about professional development and experiences, provided personal developmental content and resources for Latinx leaders.

Workshop Presenter | National White Privilege Conference | Spring 2020

- Developed and presented a workshop "How to engage students of color in higher education" at the White Privilege Conference to national leaders to share my knowledge and resources.

Honors, Awards, and Membership

- University Honors Program Member | Fall 2019-Fall 2023
- Ronald E. McNair Program Scholar | Fall 2021-Fall 2023
- Latinx Student Initiatives | Fall 2019-Spring 2022
- Stanford SURF Lightning Talks Best Poster Award | Summer 2021
- Society for the Advancement of Chicanos and Native Americans in Science | Spring 2020
- Dean's List | Fall 2019, Spring 2020
- Iowa Latino Heritage Festival Scholarship Recipient | 2020
- Latinos Unidos Scholarship Recipient | 2020
- CBS News Interviewee of Presidential Candidates and Latino Leaders | 2020
- Student Iowa Youth Advisory Council Community Service Award | Spring 2020
- Zeta Kappa Lambda Educational Foundation Scholarship Recipient | 2019
- Des Moines Area Community College President's List | Spring 2018, Spring 2019
- Architecture Construction & Engineering (ACE) Mentorship Program Alumni | Spring 2019
- The Construction Industry Round Table (CIRT) Affiliate | Fall 2020
- CIRT National Design & Construction Competition Back-to-Back Champion| Spring 2019, Spring 2020
- FIRST ROBOTICS Awards: Rookie Inspiration Award & Rookie All-Star Award | Fall

Research Presentations and Scientific Thematic Talks

1. Y. Salinas-Reyes, H. Seabold, A. Martin, M. Thuo (2020, April). Exploring the Piezoresistive Effect and Paper-based MEMS Sensors. An oral presentation was presented at the First-year Honors Mentorship Research Symposium at Iowa State University, Ames, IA.
2. Y. Salinas-Reyes, A. Martin, M. Thuo (2020, August). Integration of paper-based MEMS sensors into computer technology. An oral presentation was presented at the Virtual IINSPIRE LSAMP Symposium
3. Y. Salinas-Reyes, A. Martin, M. Thuo (2020, October). Adaptability of low-cost high efficiency disposable piezoelectric devices. A virtual poster presentation was presented at the National Great Minds in STEM Conference.
4. Y. Salinas-Reyes, A. Martin, M. Thuo (2021, April). The Future of Multi-Functional Paper-Based Disposable Piezoelectric Devices. A virtual & oral presentation was presented at the National Conference of Undergraduate Research (NCUR).
5. Y. Salinas-Reyes, X. Zheng (2021, August). Predicting Olympic Triathlon Results via Machine Learning. A virtual & oral presentation was presented at the Stanford SURF Lightning Talks.
6. Y. Salinas-Reyes, Julia R. Greer (2022, August). Energy Absorption in Nano-Architected Hybrid Composites. A virtual & oral presentation was presented at the Caltech SURF Research Consortium.
7. Y. Salinas-Reyes, Ivaldi Co. (2022, May). Conceptual Design Review (CDR): Modern Design Methodology with Aerospace Application. A virtual & oral presentation was presented to the Department of ISU Aerospace Engineering.
8. Y. Salinas-Reyes, T. Ward III (2022, May). Shear-Sensing Principals of Interfacial Viscous-Shear Flow and Piezomobility—strain-induced mobility—at The Wall (Thermal Boundary). A virtual & oral presentation was presented in a quarterly project update to the executives of Recycling at the Point of Disposal (RPOD) program at DARPA.
9. Y. Salinas-Reyes, T. Ward III (2023, July). Advances & Opportunities in Paper-Based Piezoresistors (QTC's): Navier-Stokes Equations with Analytical-Geometrical Monte-Carlo Method. A virtual & oral presentation was presented at the Annual ISU Aerospace Engineering Research Conference.
10. Y. Salinas-Reyes, T. Ward III (2023, August). Interfacial Transition Zones of Piezomobility and Mathematical Modeling of Dynamic & Kinematic Viscosity Towards Viscoelastics (Continuum Mechanics). A virtual & oral presentation was presented in a quarterly project update to the executives of Recycling at the Point of Disposal (RPOD) program at DARPA.
11. Y. Salinas-Reyes, Ivaldi Co. (2023, September). Executive and Granter Design Sign-Off: Design of Aerospace Systems (i.e., sUAS). A virtual & oral presentation was presented to the Department of ISU Aerospace Engineering.