



COUNCIL ON UNDERGRADUATE RESEARCH

2024-2025 Elections

Mathematical, Computing & Statistical Sciences Division: Councilor Candidates

Position Purpose: The CUR Council is a multidisciplinary body providing advisory input to the Board, so they have a broader perspective when making resource investment decisions. The Council serves in a communication capacity, surfacing key items arising from the Divisions, bridging the insight of the Division to the work of CUR as a whole, and serving as one means of information and resource dissemination from the central organization to the Divisions and members.

Needed Qualifications:

- Communication: Professional and effective communicators, experienced in difficult conversations and able to hear and disseminate community needs
- Foresight: Individuals able to look to the best interests of CUR into the future when discussing various issues impacting CUR members and higher education
- Creativity: Thoughtful supporters of change, able to think outside the box to find new initiatives
- Collaborative Spirit: Team players making space for all voices to be heard, furthering the collective understanding of the group, and cultivating outcomes to best serve CUR and its membership

There is 1 individual running.

You may vote for the candidate presented to be elected as a councilor for this division.

Candidate information is presented on the following pages. Click on each candidate name below to be taken to their Information In the document.

- [Vinodh Kumar Chellamuthu](#)

Vinodh Kumar Chellamuthu, Utah Tech University

Mathematical, Computing & Statistical Sciences Division Nominee

NOMINEE STATEMENTS

Describe your leadership experience both within CUR and extramural.

As a CUR Councilor in the Mathematical, Computing, and Statistical Sciences Division, I've contributed significantly as both a financial committee member and MCS Awards Committee chair. My leadership roles extend beyond CUR, including serving as Program Coordinator for the Undergraduate Research SIGMAA of the Mathematical Association of America (MAA) and as Vice-Chair of Programs for BIG SIGMAA. Additionally, I've coordinated AMATYC's student research league and chaired the MAA Intermountain Section. At Utah Tech University (UTU), as Director for the Office of Research, I've been instrumental in boosting student presentations at external conferences by 150%, establishing research policies for externally funded programs, and managing over \$200,000 in internal faculty research mini-grants. I've also helped secure over \$1.2 million in external funding that supports interdisciplinary and community-engaged student research projects.

My commitment to undergraduate research is evident through mentoring over 50 students, leading to more than 130 student presentations, including poster prize winners and participants in the prestigious Posters on the Hill event. To further support student research, I've obtained funding from sources like CURM, PICMath, NREUP, the NSF-funded S-STEM program, and MAA's Tensor Women & Mathematics.

I've also led STEM outreach initiatives at UTU, including the DTSP program, Red Rock Math Circle, and the MAGIC summer program. These efforts earned me the Early Career Faculty Mentoring Award from CUR, underscoring my dedication to nurturing future scientists through undergraduate research. My leadership philosophy emphasizes strategic planning, professional development, and cultural competency, with a strong focus on inclusivity and representation. This approach has been key to my success in leading teams, developing educational programs, and mentoring students, driving my commitment to advancing mathematics and science education.

How will your skills help the Council successfully uphold its charge?

My diverse skill set aligns well with the Council's mission to offer advisory input, bridge communication, and guide Division management. As a CUR Councilor and MCS Awards Committee chair, my experience across academic disciplines provides broad perspectives vital to supporting the Board. Through my regular participation in Councilor meetings and Annual Business Meetings, I've developed the ability to synthesize viewpoints, ensuring balanced advisory input on resource investments. In my roles as Program Coordinator for the Undergraduate Research SIGMAA of the MAA and Chair of Programs for the Business, Industry, and Government SIGMAA, I've gained substantial experience in bridging communication across sectors, which will be instrumental in surfacing key Division issues and effectively communicating them to CUR leadership. Additionally, my work with AMATYC's student research league and as Chair of the MAA Intermountain Section has further honed my skills in fostering effective information flow between the central organization, Divisions, and members. As Director of the Office of Research at UTU, where I manage funding and advocate for research policies, I bring strategic planning and resource management expertise—key elements in making informed recommendations on the Council's insights, initiatives, programs, and coordination. My interdisciplinary research background and STEM teaching experience strongly support the Council's mission. Skilled in effective communication and collaboration, I connect insights across Divisions and the central organization, aligning with the Council's objective to improve decision-making through a multidisciplinary approach. In summary, my combination of multidisciplinary knowledge, communication skills, and strategic planning abilities positions me to effectively fulfill the Council's responsibilities. I am committed to leveraging these skills to help the Council advise the Board, enhance Division communication, and provide strategic recommendations for Division management.

NOMINEE ABBREVIATED CV

An abbreviated CV highlighting the candidate's accomplishments with respect to undergraduate research is available on the next page.

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 INFORMATION Utah Tech University
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EDUCATION **Ph.D. Mathematics, August 2015**, University of Louisiana, Lafayette, LA
M.S. Applied Mathematics, May 2010, Tulane University, New Orleans, LA

UNDERGRADUATE RESEARCH MENTORING During my nine years at Utah Tech University, I have mentored over 50 undergraduate students on their individual research projects, which mostly involves the interface of mathematics and other disciplines. These projects have led to over 120 undergraduate student presentations in various international, national, state and regional conferences, and 6 publications in peer-reviewed journals.

PROFESSIONAL APPOINTMENTS **Associate Professor of Mathematics**, Utah Tech University, July 2021 – present
Acting Director of Research, Utah Tech University, Aug. 2022 – present
Assistant Professor of Mathematics, Utah Tech University, July 2015 – June 2021
Interim Department Chair of Mathematics, Utah Tech University, Feb.– June 2017
Project Associate, Indian Institute of Technology, Madras, Aug. 2005 – April 2007

SELECTED GRANTS

- **Co-Principal Investigator**, UT Innovative Scholars Program for Interdisciplinary Research (INSPIRE), National Science Foundation, 2021-2026 (**\$933,393**).
- **Principal Investigator**, 2021 National Research Experience for Undergraduates Program, NREUP 2021. National Science Foundation (**\$29,500 subaward through Mathematical Association of America**).
- **Principal Investigator**, 2021-22 CURM Minigrant 2021. National Science Foundation (**\$12000 subaward through CURM**).
- **Director**, (*Utah Tech University's PRIME: Performing Research Increases Mathematical Empowerment*), Tensor SUMMA Grants, Mathematical Association of America (MAA). (**\$11,760**)(May, 2022 - May 2024).
- **Recipient**, PIC Math, (*Preparation of Industrial Careers in Mathematics*), NSF through Mathematical Association of America (MAA)(**\$7000**)(Spring 2019, Spring 2020, Spring 2022).
- **Co-director**, DTSP (*Dixie Tensor Scholar Program*), Tensor Women and Mathematics Grants, Mathematical Association of America (MAA). (**\$10000**)(May, 2019 -- May, 2022).

SELECTED REFEREED JOURNAL PUBLICATIONS
 - * INDICATES

UNDERGRADUATE AUTHORS

- **V. Anderson***, **C. Bettis***, **S. Brown***, **J. Davis***, **N. Walker***, V.K. Chellamuthu, and A.S. Vatsala. "Superlinear convergence via mixed generalized quasilinearization method and generalized monotone method", *Involve, a Journal of Mathematics* **7:5** (2014), 699-712.
- **Schmidt, Gregory***; **Whipple, Benjamin***; Chellamuthu, Vinodh; and Xie, Xiaoxia. "A Dynamical System Model of Dengue Transmission for Rio de Janeiro, Brazil," *Spora: A Journal of Biomathematics: Vol. 9*, (2023) 1–11.

SELECTED
STUDENTS
PRESENTATIONS
AT NATIONAL
CONFERENCE

- **Craig Peterson***, Vinodh K. Chellamuthu, and Joseph Lovell, “Critical Commentary: Weighted Analytics – What Do the Numbers Suggest?”, *Journal Of Emerging Sport Studies* , Volume III, (2020)
- **West, Noelle*** and Chellamuthu, Vinodh K. (2020) “Modeling the Effects of Passive Immunity in Birds for the Disease Dynamics of West Nile Virus,” *Spora: A Journal of Biomathematics*: Vol. 6, 16–25.
- **Stiner, S.*** and Chellamuthu, V. (2020). An Agent-Based Model of West Nile Virus: Predicting the Impact of Public Health Agents and Vaccinations on Horses. *Curiosity: Interdisciplinary Journal of Research and Innovation*, 44–66.
- **Vasquez, C.***and Chellamuthu, V. (2021). House Price Prediction With Statistical Analysis in Support Vector Machine Learning for Regression Estimation. *Curiosity: Interdisciplinary Journal of Research and Innovation*, 1(2)
- **Colton Smith[†]**, *Outstanding Poster Award* “Assessing the Role of Temperature in Dengue Fever Outbreak Dynamics with Wolbachia Transinfection Control Methods.” AMS-MAA Joint Mathematics Meeting, San Diego, CA, January 10-13, 2018.
- **Alexandar Mitchell**, *Dirix Awards 2018 - Undergraduate Researcher of the Year* “An Agent Based Model of Hand, Foot, and Mouth Disease” MAA Intermountain Sectional Meeting, Logan, UT, March 23-24, 2018.
- **Craig Peterson**, “Statistical Analysis of Players .” The Hockey Conference, Edmonton, CANADA, July 5-6, 2018.
- **Jake Skinner⁺⁺**, *Outstanding Poster Award* “Wildfire: A Mathematical Model Analyzing the Effects of Fire Damage.” AMS - MAA Joint Mathematics Meeting, Baltimore, MD. Jan. 16-19, 2019
- **Noelle West⁺⁺**, *Outstanding Poster Award* “A Mathematical Model of West Nile Virus: The Effect of Interaction Between Humans, Mosquitoes, and Birds.” AMS - MAA Joint Mathematics Meeting, Baltimore, MD. Jan. 16-19, 2019
- **Craig Peterson⁺⁺**, *Outstanding Poster Award* “Forecasting Performance Through Analytics.” AMS - MAA Joint Mathematics Meeting, Baltimore, MD. Jan. 16-19, 2019
- **Abel Reed**, “Assessing the Role of Prescribed Painkillers and its Impact on Opioid Epidemic.” AMS - MAA Joint Mathematics Meeting, Baltimore, MD. Jan. 16-19, 2019
- **Craig Peterson**, “Forecasting Performance Through Analytics.” MAA Intermountain Section Spring Meeting, Cedar City, UT, April 12-13, 2019.
- **Cesar Vasquez⁺⁺**, *Outstanding Poster Award* “Rating Clientele Potential Using Statistical Models.” AMS - MAA Joint Mathematics Meeting, Denver, CO. Jan. 15-19, 2020
- **Shandi Stiner**, “An Agent-Based Model of West Nile Virus: Predicting the Impact of Vaccinations on Horses.” AMS - MAA Joint Mathematics Meeting, Denver, CO. Jan. 15-19, 2020
- **Ammon Taylor**, “A Mathematical Model to Control Mosquito Population through Wolbachia Transinfection.” AMS - MAA Joint Mathematics Meeting, Denver, CO. Jan. 15-19, 2020
- **Noelle West⁺⁺**, *Outstanding Poster Award* “A Mathematical Model of West Nile Virus: The effects of Passive Immunity in Birds and Vertical transmission in Mosquitoes.” AMS - MAA Joint Mathematics Meeting, Denver, CO. Jan. 15-19, 2020

SELECTED
SYNERGISTIC
ACTIVITIES

- **Councilor - Mathematics and Computer Science Division**, Council on Undergraduate Research, 2021 - Present
- **Program Coordinator**, SIGMAA Undergraduate Research, 2021 - Present
- **Chair**, Intermountain Section - Mathematical Association of America, 2020 - 2023
- **Student Research League Coordinator**, American Mathematical Association of Two-Year Colleges, 2020 - Present
- **Vice Chair of Programs**, BIG SIGMAA, MAA, 2020 -2022.