

Maxwell Kooiker

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Biography

- Determined graduate student with a long-standing commitment to mathematics and research.
- Current research interests include: Number Theory, Analysis, Mathematical Physics.

Education

California State University San Marcos

B.S. Mathematics

Fall 2022 – Spring 2025

3.750 Cumulative GPA (Out of 4)

Claremont Graduate University

Ph.D. Mathematics (Expected Spring 2030)

M.S. Mathematics (Expected Fall 2026)

Fall 2025 – Present

3.900 Cumulative GPA (Out of 4)

Work Experience

CSU San Marcos

Instructional Student Assistant

Jan 2024 – May 2024

CSU San Marcos

- Calculus 2 (Grader & In-Class Assistant)
- Foundations of Theoretical Mathematics (Grader & Office Hours)

CSU San Marcos

Instructional Student Assistant

Oct 2024 – Dec 2024

CSU San Marcos

- Real Analysis (Office Hours)

Research

A Structural Analysis of Population Graphs

Submitted for Publishing

Sept 2022 – Aug 2025

CSU San Marcos

- Constructing graphs which are representative of individuals, with the intention of comparing each person's genetic makeup between one another. Joint work with Dr. Kimberly Ayers.
- Link: <https://doi.org/10.48550/arXiv.2508.10058>.

The Eclipse Depth and Dayside Temperature of TOI-1181b

Concluding Manuscript

Jan 2025 – Present

CGU, UCR, CSUSM

- Using the difference in observed flux due to eclipse (when the planet goes behind the star relative to the viewer) to measure a temperature for the particular system TOI-1181. Joint work with Dr. Tara Fetherolf.

Technical Skills

Languages: LaTeX, Python, C++

Compiling Tools: VS Code, Overleaf, Microsoft Word

Computing Tools: MATLAB, Microsoft Excel

Honors & Awards

5-Time Dean's List Recipient (CSUSM)

Fall 2022 – Spring 2025

John Angus Fellowship Awardee (CGU)

Fall 2026

Presentations/Lectures

- *The Eclipse Depth and Dayside Temperature of TOI-1181b*. JMM Undergraduate Presentations, Washington D.C., Jan 2026.
- *Modeling Population Graphs with Genetic Data*. JMM Undergraduate Presentations, Seattle, Jan 2025.
- *Modeling Population Graphs with Genetic Data*. AMS Undergraduate Presentations, UC Riverside, Oct 26, 2024.
- *Modeling Population Graphs with Genetic Data*. The San Marcos Informal Mathematics In-person Colloquium (SMIMIC), CSU San Marcos, Oct 3, 2024.