Sandy Auttelet, BS

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EDUCATION

Washington State University   Aug 2020 – May 2024
Bachelor's of Science, Theoretical Mathematics

- **Major GPA:** 3.66 GPA
- **Cumulative GPA:** 3.59 GPA
- **Graduate-Level Coursework:** Fractal Computation, Learning from Images and Signals

Washington State University   Aug 2020 – May 2024
Bachelor's of Science, Physics

- **Major GPA:** 3.33 GPA
- **Senior Thesis:** Flat Norm Decomposition and Computation
- **Graduate-Level Coursework:** Gravitation and Cosmology, Quantum Tech and Computation

RESEARCH EXPERIENCE

Bose Cosmology Group   Mar 2024 – Present
Physics & Astronomy Department, Washington State University

- **Position:** Research Assistant
- **Supervisor:** Sukanta Bose, PhD
- **Responsibilities:**
  - Using flat norm computation to classify LIGO's glitch types
  - Collaborating with GravitySpy to compare L1 and L2 regularization methods on classification

Integrated Science & Mathematics   Jan 2022 – Present
Department of Mathematics & Statistics, Washington State University

- **Position:** Research Assistant
- **Supervisor:** Kevin Vixie, PhD
- **Responsibilities:**
  - Expanded on previous student's flat norm equation decomposition and solved for constants
  - Computed the flat norm equation using the L1 total variation regularization in python

Boeing Scholars Program   Jan 2023 – May 2024
College of Arts & Sciences, Washington State University

- **Position:** Research Scientist
- **Supervisor:** Asa Brown, JD
- **Responsibilities:**
  - Collaborated on an interdisciplinary team to help Boeing with predictive maintenance
  - Presented project updates to the Boeing Company and Senior Technical Engineer

Collaborative Research   Apr 2023 – Jul 2023
Department of Mathematics, Gonzaga University

- **Position:** Research Consultant
- **Supervisor:** David Wollkind, PhD
- **Responsibilities:**
    - Calculated intersection points using python to validate math model for pattern recognition
    - Created figures for data visualization from previous work to test computational application

AWARDS & GRANTS

WSU Team Mentor Program Research Travel Grant ($500)	Spring 2024
WSU Office of Undergraduate Research Travel Grant ($700)	Spring 2024
WSU Department of Mathematics & Statistics Travel Grant ($800)	Spring 2024
WSU Neuse Excellence Scholarship ($3000)	Fall 2023, Spring 2024
WSU Strong Excellence Scholarship ($2000)	Fall 2023, Spring 2024
WSU Tom Dickinson Research Scholarship ($2000)	Summer 2023
WSU Outstanding Mathematics Student Award	Spring 2023
WSU Hacker Research Scholarship ($4000)	Spring 2022, 2023
WSU Lutz, Tom & Julie Science & Mathematics Excellence Scholarship ($1000)	Fall 2022, Spring 2023
WSU Leo Millam Research Scholarship ($2000)	Summer 2022
President's Honor Roll	Fall 2021, Fall 2023

PUBLICATIONS

D. J. Wollkind, B. Dichone, S. Auttelet, "A Rhombic Planform Nonlinear Stability Analysis of a Noncytopathic EIAV-Target Cell Limited Interaction-Dispersion-Chemotaxis Quasi-Equilibrium Model System," Involve, vol. x, no. x, pp. xxx–xxx, Abbrev. month, year, doi: xxx.

S. Auttelet, J. Brennan, B. Cecil, C. Michels, K. Sabochick, K. Vixie, "Flat Norm on Graphs," arxiv.org, Aug. 2024. [Online]. Available: URL

CONFERENCE PRESENTATIONS

S. Auttelet, J. Brennan, B. Cecil, C. Michels, K. Sabochick, K. Vixie. "Flat Norm Decomposition and Computation," poster presented at the April Meeting, American Physical Society, San Francisco, CA, USA, Apr. 7, 2024.

S. Auttelet, J. Brennan, B. Cecil, C. Michels, K. Sabochick, K. Vixie. "Flat Norm Decomposition and Computation," poster presented at the Conference for Undergraduate Women in Physics, American Physical Society, Bozeman, MT, USA, Jan. 20, 2024.

S. Auttelet, J. Brennan, C. Michels, K. Sabochick, K. Vixie. "Flat Norm Decomposition and Computation," poster presented at the Pacific Inland Mathematics Undergraduate Conference, Gonzaga University, Spokane, WA, USA, Apr. 1, 2023.

PROJECTS

Optimal Delivery Route for Assurance Delivery Apr 2024
Capstone Report, Linear Optimization, Washington State University
- **Instructor:** Thomas Asaki, PhD
- **Highlight:**
    - Constructed a graph based network using NetworkX and computed minimized weights

Black Hole Mechanics Nov 2023
Paper & Presentation, Gravitation & Cosmology, Washington State University
- **Instructor:** Sukanta Bose, PhD
- **Highlight:**
    - Identified black hole metrics and compared black hole mechanics to thermodynamic laws

An Analysis of Optimal Soil Choice Jul 2023
Final Report, Mathematical Computing, Washington State University
- **Instructor:** Curtis Michels, PhD Candidate
- **Highlight:**
    - Used computational methods to make recommendations for soil type choice

TEACHING & TUTORING EXPERIENCE

Undergraduate Physics, Math & Introductory Chemistry Courses Aug 2021 – Aug 2024
Academic Success & Career Center, Washington State University
- **Position:** Lead Tutor
- **Supervisor:** Jaxon Porterfield, MA
- **Responsibilities:**
    - Spent over 500 hours actively tutoring students and supervising other tutors
    - Completed College Reading and Learning Association Level 1 certification and TutorLingo

Introductory Algebra Based E&M Lab, Physics 112 Aug 2023 – Dec 2023
Physics & Astronomy Department, Washington State University
- **Position:** Teaching Assistant
- **Supervisor:** Jacob Turner, PhD
- **Responsibilities:**
    - Taught and graded two sections of introductory electricity and magnetism lab
    - Helped tutor and communicate with students about physics concepts and report writing

Introductory Algebra Based Kinematics, Physics 101 Jan 2021 – Dec 2021
Physics & Astronomy Department, Washington State University
- **Position:** Learning Assistant
- **Supervisor:** Anya Guy, PhD
- **Responsibilities:**
    - Conducted online small group activities with students to foster communication in the class
    - Tutored students by helping with online homework and studying for exams

PROFESSIONAL EXPERIENCE

Front Desk Team   May 2024 – Present
Academic Success & Career Center, Washington State University

- **Position:** Program Assistant
- **Supervisor:** Harrison Hughes, MA
- **Responsibilities:**
  - Presenting workshops focused on time management and learning strategies to students
  - Assisting advisors by processing program changes and tracking reinstatement conditions

Taco Bell   Mar 2015 – Jul 2020
Craig Langel Company, Idaho & Washington Locations

- **Position:** Restaurant Manager
- **Supervisor:** Allen Morrell, BBA
- **Responsibilities:**
  - Worked 50-80 hours per week ranging from open, mid and closing shifts when needed
  - Hired and trained a hardworking and happy team of up to 40 people as we opened a new store
  - Held biweekly manager meetings to ensure metrics were met and store issues were prevented
  - **Annual Store Achievements**
    * Best Audit Average   2019
    * Rising Star Award   2018
    * Golden Bell Championship (ranked 44 of approximately 7000 stores)   2018
    * Restaurant Champions Club   2017, 2018

PROFESSIONAL MEMBERSHIPS

Gender Inclusive Physics Community   2024 – Present

American Astronomical Society   2023 – Present

American Physical Society   2020 – Present