

Nikolaus Zen Prusinski

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EDUCATION

California Institute of Technology, Pasadena, CA

Ph.D. Astrophysics, 2020 - Date

University of Wisconsin – Milwaukee, Milwaukee, WI

B.S. Physics – Astronomy Emphasis, 2016 - 2020

B.S. Mathematics, 2016 - 2020

Graduated Summa Cum Laude with Honors in the Majors at age 19.

Final GPA: 3.936.

RESEARCH EXPERIENCE

Northwestern University

Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA)

Dr. Nancy Aggarwal, Prof. Christopher Berry, Prof. Aaron Geller

Summer 2019 NSF REU Student Researcher

Research Project: Detecting Orphan Memory from Gravitational Waves (see [research website](#))

University of Wisconsin – Milwaukee

Center for Gravitation, Cosmology, and Astrophysics (CGCA)

Prof. Dawn Erb, Summer 2017 - Date

Research Project: Galactic Star Formation Driven Outflows at $1 < z < 1.5$

Funded through the Support for Undergraduate Research Fellows Grant (SURF; Fall 2017 – Summer 2019) and the Senior Excellence in Research Award (SERA; 2019 – 2020) through UWM's Office of Undergraduate Research (OUR).

Prof. David Kaplan, 2016 - 2017

Research Projects:

- Pulsar Observation and Detection through Arecibo Remote Command Center at UWM (ARCC@UWM)
- Research Demonstration with UWM Observatory CCD Camera Measuring Linearity, Read Noise, and Gain ([paper](#)) - Summer 2017

SYMPOSIA

Nikolaus Prusinski, Dawn K. Erb, Crystal L. Martin. “*Star Formation and Galactic Outflows in the Early Universe*” Poster presented at 12th annual UWM (virtual) Undergraduate Research Symposium. April 30, 2020. Milwaukee, WI.

Nikolaus Prusinski, Bob Aloisi. “*Multiwavelength Astrophysics at UWM*” Poster presentation at 17th annual Research in the Rotunda Meeting. March 11, 2020. Madison, WI (State Capitol).

Nikolaus Prusinski, Dawn K. Erb, Crystal L. Martin. “*Galactic Outflows and the Morphology of Star Formation at $1 < z < 1.5$* .” Poster presentation at 235th American Astronomical Society (AAS) Meeting. January 6, 2020. Honolulu, HI.

Nikolaus Prusinski, Nancy Aggarwal, Christopher Berry. “*Detecting Orphan*

Memory from Gravitational Waves.” Poster presented at Adler Planetarium to general public. August 23, 2019. Chicago, IL.

Nikolaus Prusinski, Nancy Aggarwal, Christopher Berry. “*Detecting Orphan Memory from Gravitational Waves.*” Poster presented at Northwestern to CIERA physics/astro faculty, students, and staff. August 22, 2019. Evanston, IL.

Nikolaus Prusinski, Dawn K. Erb, Crystal L. Martin. “*Galactic-Scale Star Formation-Driven Outflows at $1 < z < 1.5$ in the 3D-HST Survey.*” Poster presented at 11th annual UWM Undergraduate Research Symposium. April 5, 2019. Milwaukee, WI.

Nikolaus Prusinski, Dawn K. Erb, Crystal L. Martin. “*Galactic-Scale Star Formation-Driven Outflows at $1 < z < 1.5$ in the 3D-HST Survey.*” Poster presented at 10th annual UWM Undergraduate Research Symposium. April 27, 2018. Milwaukee, WI.

GRANTS and SCHOLARSHIPS

UWM Manfred Olson Planetarium Scholarship - 2017, 2020
James M. Martin Memorial Scholarship - for having the highest overall score in Modern Physics class - 2019
Chancellor Award - for academic excellence - 2018, 2019
Wisconsin Space Grant Consortium (WSGC) Undergraduate Scholarship - 2018, 2019
Academic Excellence Scholarship - 2018, 2019
Hoye Scholarship - 2018
William L. Walters Memorial Scholarship - 2018
Trustone Financial Scholarship - 2018
Saint Francis Civic Association Scholarship - 2018
Joseph (Starr) Diny Scholarship - 2017

SELECTED HONORS and AWARDS

Dean’s Honor List (UWM) – 2016 - 2020
Commencement Honors (UWM) – 2020
William Lowell Putnam Mathematical Competition Participant – 2017 - 2020
UWM Chancellor Recognition for Public Telescope Viewing during Solar Eclipse - 2017
Saint Francis High School High Honor Roll - First in Class (Valedictorian) 4.548 GPA - 2014 - 2018
FIRST FTC Inspire Award - for Robotic Programming and Sensor Integration - 2015

TEACHING EXPERIENCE

University of Wisconsin – Milwaukee
Supplemental Instruction (SI) Leader through the Student Success Center (SSC) at UWM. Tutoring calc-based E&M. - Fall 2019

- Received CRLA’s International Tutor Training Program Certification (Level 1)
- Certificate of Appreciation from the SSC for Tutoring and SI during Fall semester

Saint Francis High School

Tutor in RobotC, Java, C++, Python, Math, and Music; individually and in small groups.

OUTREACH

UWM Manfred Olson Planetarium - 2015 - 2020

- Conduct weekly stargazing sessions at the UWM observatory. When cloudy, present live shows inside the planetarium on constellations, current astronomy news, and specific astronomical topics (e.g. black holes, birth of the universe, etc.).
- Fulfilled an opportunity as project lead to improve the UWM observatory to feature a 14" reflecting telescope on a permanent computerized mount with astrophotography capabilities using a CCD camera.
- This \$18,500 project required sourcing telescope equipment, designing and constructing the mount, electrical, and IT, while coordinating with university faculty, staff, and contractors both in and outside of physics.
- Project's success mandated training and mentoring my replacements using the upgraded scope. Worked with a student to observe transiting exoplanets using the CCD camera as part of an independent study research project.

UWM Astronomy Club - 2016 - 2020

- Presentations to physics undergrads on personal research projects and current astro news
- Astronomy public outreach: Maker Faire Milwaukee (2019), Human Scale Sundial Project (2017), "Coffeeshop" Astrophysics (2017)

MEDIA and COMMENTARY

"Award-Winning Undergraduate Research at UWM," UWM Research Magazine, February 21, 2020.

"Undergraduate Researchers Explore Frontiers of Human Knowledge," UWM Report, February 20, 2020.

"Changes at Yerkes Observatory, An Artifact of Wisconsin's Astronomical Glory Days," WUWM 89.7 - March 12, 2018

Manfred Olson Planetarium – Stargazing Group Lead

- Planetarium Website [Cover Piece](#) and [Bio](#) - November 8, 2016
- CBS Channel 58 News [Interview](#) - 2017

Website: <http://nzp.guru/> Create, design, produce, and publish text and video on to private/public servers and YouTube. Publish to share research activities, programming references, and recreational interests. - 2008 - Date

COMPUTER SKILLS

Languages: Python, Java, C, C++, Swift, L^AT_EX.

Web Development: HTML, CSS.

Astronomy Software: DS9, Grizli, TheSkyX

General Applications: Mathematica, Dreamweaver, Photoshop, PTC Creo, Autodesk Inventor, SolidWorks, MS/Apple/Libre Office Suites, Xcode, Finale.

Operating Systems: Linux/Unix, Mac OS, Windows, iOS, Android.

MEMBERSHIPS, INTERESTS, and VOLUNTEERING

American Astronomical Society (AAS) Undergraduate Member – 2019 - Date

Phi Beta Kappa (UWM) – 2020 - Date

UWM Center for Gravitation, Cosmology, and Astrophysics (CGCA) - 2016 - 2020

UWM Honors College – 2017 - 2019

UWM Youth Options Program (School Board Sponsored) – 2016 - 2018

Saint Francis High School Gifted and Talented Program – 2014 - 2018

Federal Aviation Administration (FAA) Private Pilot - Single Engine Land Aircraft - 2018 - Date

- FAA Student Pilot - Instrument Single and Multi-Engine Land - 2012 - Date
- Soloed at 16, Licensed at 17 (FAA Age Minimums) - Flying since 2007

Experimental Aviation Association (EAA) Member - 2019 - Date

Musician (Orchestra Student) - **French Horn, Piano, and Trumpet** - 2008 - Date

Horn Participant: UWM Horn Choir, UWM Symphony Band, UWM University

Community Orchestra, Milwaukee Municipal Orchestra - 2016 - Date

Great Lakes Sailor - Helm, Nav, and Sheet Masthead Sloop “Paprika” - 2010 - Date