

Christopher Sheridan

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CURRENT INSTITUTION	McGill University/Trottier Space Institute 3550 Rue University, Office 030 Montreal, QC H3A 0C6	
RESEARCH INTERESTS	Supermassive black holes, active galactic nuclei, and relativistic jets; X-ray variability and spectroscopy, multi-wavelength analysis; multiple star systems and eclipsing binaries; late-stage stars and black hole progenitors.	
EDUCATION	McGill University, Montréal, QC, Canada PhD (Thesis), Physics Supervisor: Dr. Daryl Haggard	May 2030 (Expected)
	Villanova University, Villanova, PA, USA B.S. Astronomy & Astrophysics Minors in Physics and Mathematics <i>Magna Cum Laude</i> - GPA 3.79/4.0	May 2024
RESEARCH EXPERIENCE	X-ray Variability in the Core and Jet of M87	2021–Present
	Advisor: Dr. Joey Neilsen, Villanova University	
	<ul style="list-style-type: none">Modeled X-ray spectra of M87's core and relativistic jet using spectral analysis software (ISIS)Spearheaded advancement upon past X-ray modeling of M87; contributed refined model to the X-ray portion of the EHT Multiwavelength Working Group broadband SED model of M87Paper to be submitted to the Astrophysical Journal in preparation	
	Calibrating the Binary Population Through Stellar Population Synthesis	2024–2025
	Advisor: Dr. Andrej Prša, Villanova University	
PROFESSIONAL MEMBERSHIPS	<ul style="list-style-type: none">Developed synthetic populations of binary star systems and subsets of eclipsing binaries using custom prescriptionsUsed machine learning to optimize prescriptions for underlying binary populations by comparing with the Kepler EB CatalogPresented results at 245th AAS Meeting	
	Variability in Red Supergiant Stars: Long and Short Period Analysis	2021
	Advisor: Dr. Edward Guinan, Villanova University	
	<ul style="list-style-type: none">Conducted period analysis on archival photometry of 22 red supergiant starsDrew conclusions on the Period-Luminosity Relationship in red supergiantsPresented results at 240th AAS Meeting	
	Event Horizon Telescope Collaboration - Member	2025–Present
SKILLS	<ul style="list-style-type: none">Multi-wavelength Working GroupNon-horizon/AGN Working Group	
	American Physical Society - Member	2024–Present
	Sigma Pi Sigma Physics Honor Society - Member	2024–Present
	American Astronomical Society - Member	2022–Present
SKILLS	Languages & Software: Python, Bash, L ^A T _E X, Linux, HEASoft, ISIS Interactive Spectral Interpretation Software, CIAO, emcee	
	Packages:	

PUBLICATIONS	EHT Multiwavelength Working Group et al. (incl. Sheridan, C.), <i>Broadband Multi-wavelength Properties of M87 during the 2018 EHT Campaign and a Very High Energy Flaring Episode</i> , 2024, <i>Astronomy & Astrophysics</i> , 692, 140
PUBLICATIONS IN PREP.	Sheridan, C. , Neilsen, J., Markoff, S., Haggard, D., Nowak, M., <i>X-ray Variability in the Core and Jet of M87</i> , in prep.
CONFERENCE PROCEEDINGS	<p><u>Poster</u>: Sheridan, C. & Prša, A., <i>Calibrating the Binary Population Through Stellar Population Synthesis</i>, 2025, American Astronomical Society, 245, 249.08</p> <p><u>Poster</u>: Sheridan, C., Neilsen, J., Haggard, D., Markoff, S., & Nowak, M., <i>X-ray Variability and the Spectrum of M87</i>, 2024, American Astronomical Society, 243, 110.03</p> <p><u>Poster</u>: Sheridan, C., <i>Stars on the Verge: Analyzing Long-term Photometry of Galactic Red Supergiant SN-II Progenitors</i>, 2022, American Astronomical Society, 240, 204.11</p> <p><u>Poster</u>: Guinan, E. et al. (incl. Sheridan, C.), <i>Betelgeuse After the Fall - Analysis of 185-yrs of Photometry</i>, 2022, American Astronomical Society, 240, 415.03</p>
CONTRIBUTED TALKS	Sheridan, C. and Neilsen, J., <i>X-ray Variability and the Spectrum of M87</i> , 2023, AstroPhilly '23, Villanova University.
FELLOWSHIPS & AWARDS	<p>Donald G. Hurst Fellowship, McGill University 2025 \$8,860 CAD, Awarded for academic and research excellence in Physics.</p> <p>Phi Sigma Pi National Honor Fraternity - Villanova Chapter 2021–2024 <i>Alumnus, Chapter Initiate Advisor (2023), Executive Board Member.</i></p> <p>Undergraduate Research Fellowship, Villanova University. 2021 \$3,500 USD, Summer research grant, awarded as freshman</p> <p>Edwin F. Bailey Scholarship, Villanova University. 2021 \$10,000 USD, Awarded to top underclassman in Astrophysics Department.</p>
RESEARCH POSITIONS	<p>Research Assistant, Villanova University Sept. 2024– May 2025 Advisor: Dr. Andrej Prša</p> <p>Undergraduate Research Assistant, Villanova University Summer 2023 Advisor: Dr. Joey Neilsen (cont. from Summer 2022)</p> <p>Undergraduate Research Assistant, Villanova University Summer 2022 Advisor: Dr. Joey Neilsen</p>
ADDITIONAL EXPERIENCE	<p>Teaching Assistant McGill University 2025–Present <i>PHYS251: Honors Classical Mechanics, PHYS186: Astrobiology</i></p> <p>Contracted STEM Tutor - Teacher Time To Go 2024–2025 <i>Individually tutored 20+ high-school students in STEM courses</i></p> <p>Mendel Science Experience Tutor - Villanova University 2023–2024 <i>Individual tutoring for students in introductory astronomy courses</i></p> <p>Villanova Observatory Attendant - Villanova University 2021–2024 <i>Gave tours of observatory facilities, educated visitors on astronomical events of interest, gained experience operating telescopes</i></p> <p>Teaching Assistant - Villanova University 2021–2024 <i>MSE2101: Life in the Universe, MSE2102: Planetary Skies, MSE2103: How Old is the Universe?</i></p>

OUTREACH &
SERVICE

McGill Sea to Space, General Volunteer September 2025
Helped run day-long event engaging young learners from the Montréal community, educating on basic physics topics

Phi Sigma Pi National Honor Fraternity, Chapter Initiate Advisor 2023
Oversaw induction of 60 new members into the Chapter, ensuring an inclusive and equitable environment in coordination with Chapter DEI Advisor

Phi Sigma Pi National Honor Fraternity, NOVA dance Captain 2023
Led Chapter fundraising efforts in contribution to NOVA dance, an annual year-long Villanova fundraising campaign supporting families of those battling childhood cancer

Phi Sigma Pi National Honor Fraternity, Volunteer 2021–2024
Participated in and organized numerous volunteering and fundraising events at Villanova University and in the surrounding community

REFERENCES

Dr. Daryl Haggard, Associate Professor of Physics
McGill University, (514) 398-6497, daryl.haggard@mcgill.ca

Dr. Joey Neilsen, Associate Professor of Physics
Villanova University, (610) 519-6497, joseph.neilsen@villanova.edu

Dr. Andrej Prša, Professor of Astronomy & Astrophysics
Villanova University, (610) 519-4822, aprsa@villanova.edu

Dr. Edward Guinan, Professor of Astronomy & Astrophysics
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