

# GRANT C. WELDON

gcweldon@umich.edu

## EDUCATION

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<b>B.S. Honors Physics, Mathematics</b> , <i>University of Michigan</i> Concentration in Mathematical Physics	2017 - 2021 <i>Ann Arbor, MI</i>
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## RESEARCH INTERESTS

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General relativity, relativistic astrophysics, gravitational waves

## RESEARCH EXPERIENCE

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<b>NASA Goddard Space Flight Center</b> NASA GRAVITATIONAL ASTROPHYSICS LABORATORY <i>Advisors:</i> Dr. Jacob Slutsky, Dr. Ira Thorpe · Gravitational wave data analysis preparations for the Laser Interferometer Space Antenna (LISA)	June 2020 - August 2020 <i>Virtual</i>
<b>National Institute for Nuclear Physics (INFN)</b> VIRGO COLLABORATION · TOR VERGATA GRAVITATIONAL WAVE GROUP <i>Advisors:</i> Prof. Viviana Fafone and Dr. Elisabetta Cesarini · Optical metrology for thermal noise reduction in future gravitational wave interferometers	June 2019 - July 2019 <i>Rome, Italy</i>
<b>University of Michigan</b> LIGO SCIENTIFIC COLLABORATION · MICHIGAN GRAVITATIONAL WAVE GROUP <i>Advisor:</i> Prof. Keith Riles · Gravitational wave data analysis in searches for continuous waves from spinning neutron stars	April 2018 - Present <i>Ann Arbor, MI</i>

## HONORS & AWARDS

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· <b>DOE-INFN Summer Research Fellowship</b> , <i>U.S. Department of Energy &amp; INFN</i>	2019
· <b>Sophomore Honors Award with Distinction</b> , <i>University of Michigan LSA Honors Program</i>	2019
· <b>William J. Branstrom Freshman Prize</b> , <i>University of Michigan</i>	2018
· <b>University Honors</b> , <i>University of Michigan</i>	2017 - 2019
· <b>Dr. Sidney J. and Irene Shipman Scholarship</b> , <i>University of Michigan</i> (full-tuition merit scholarship)	2017 - 2021
· <b>Regents Merit Scholarship</b> , <i>University of Michigan</i>	2017
· <b>National Merit Scholarship Finalist</b> , <i>National Merit Scholarship Corporation</i>	2017

## PUBLICATIONS

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1. B. P. Abbott, *et al.* (including **G. Weldon**), *All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data*, *Phys. Rev. D* **100**, 024004 [arXiv:1903.01901] (2019)

## PRESENTATIONS

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3. **UM Physics Research Fair**, University of Michigan Physics Department, Ann Arbor, MI (November 2019); presented a poster, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
  2. **Midwest Relativity Meeting**, American Physical Society Division of Gravitational Physics, Grand Valley State University, Grand Rapids, MI (October 2019); presented a talk, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
  1. **APS April Meeting**, American Physical Society, Denver, CO (April 2019); presented a talk, *Strain Histograms for Evaluating Continuous Gravitational Wave Candidates*

## PROFESSIONAL MEMBERSHIP

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<b>American Physical Society (APS)</b> <i>Division of Gravitational Physics</i>	2017 - Present
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## ORGANIZATIONS

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<b>Society of Physics Students (SPS)</b> <i>President</i> (2020 - 2021) <i>Vice President</i> (2019 - 2020) <i>Outreach Co-Chair</i> (2018 - 2019)	2017 - Present
<b>Shipman Scholarship Society</b>	2017 - Present
<b>Honors Program, College of LSA</b>	2017 - Present

## OUTREACH & SERVICE

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<b>Novi High School - Stem Without Boundaries Tech Series</b> <i>Panelist</i>	June 2020 <i>Virtual</i>
<b>SPS Biweekly Speaker Series</b> <i>Coordinator</i>	2019 - 2020 <i>Ann Arbor, MI</i>
<b>Michigan Science Center - Physics Demo Day</b> <i>Volunteer</i> with SPS ( <i>Coordinator</i> in 2019)	2018 - Present <i>Detroit, MI</i>
<b>Ann Arbor Hands-On Museum - Physics Palooza</b> <i>Volunteer</i> with SPS ( <i>Coordinator</i> in 2019)	2018 - Present <i>Ann Arbor, MI</i>
<b>Burns Park Elementary School - Physics Night</b> <i>Volunteer</i> with SPS	2017 <i>Ann Arbor, MI</i>

## OTHER EXPERIENCE

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<b>Course Grader</b> for PHYSICS 160: Honors Physics I (Mechanics)	Winter 2020
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## COURSEWORK

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### Physics

- General Relativity (Graduate)
- High-Energy Astrophysics
- Quantum Mechanics
- Statistical Mechanics & Thermodynamics
- Classical Electrodynamics
- Classical Mechanics

### Mathematics

- Numerical Methods
- Probability
- Linear Algebra
- Honors Differential Equations

## TECHNICAL KNOWLEDGE

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Python, MATLAB, Linux/Unix, Bash, HTML, L<sup>A</sup>T<sub>E</sub>X