

# GRANT C. WELDON

gcweldon@umich.edu · <https://umich.edu/~gcweldon>

## EDUCATION

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

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High-Energy Astrophysics, General Relativity, Gravitational Waves, Cosmology

## RESEARCH EXPERIENCE

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<b>University of Michigan</b> LIGO SCIENTIFIC COLLABORATION - MICHIGAN GRAVITATIONAL WAVE GROUP <i>Advisor:</i> Prof. Keith Riles	April 2018 - Present <i>Ann Arbor, MI</i>
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- Gravitational wave astrophysics, Advanced LIGO data analysis, and computational methods
- Searches for continuous waves emitted by non-axisymmetric, rapidly spinning neutron stars

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<b>National Institute for Nuclear Physics (INFN) of Italy</b> VIRGO COLLABORATION - TOR VERGATA GRAVITATIONAL WAVE GROUP <i>Advisors:</i> Prof. Viviana Fafone and Dr. Elisabetta Cesarini	June 2019 - July 2019 <i>Rome, Italy</i>
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- Metrology for thermal noise reduction in gravitational wave laser interferometers

## HONORS & AWARDS

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| · <b>DOE-INFN Summer Research Fellowship</b> , <i>U.S. Department of Energy - Italy 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>Dr. Sidney J. and Irene Shipman Scholarship</b> , <i>University of Michigan</i><br>(full tuition, four year merit scholarship) | 2017 - 2021 |
| · <b>Regents Merit Scholarship</b> , <i>University of Michigan</i>  | 2017        |
| · <b>National Merit Scholarship Finalist</b>  | 2017        |

## PUBLICATIONS

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- 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](https://arxiv.org/abs/1903.01901)] (2019)

## PRESENTATIONS

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- D. Lumaca (presenter), *et al.* (including **G. Weldon**), *Stability of Low Loss Substrates for Coating Research: From Edge Effect to Ageing*, 13th Amaldi Conference on Gravitational Waves, Valencia, Spain (July 2019)
  - **G. Weldon**, K. Riles, *Strain Histograms for Evaluating Continuous Gravitational Wave Candidates*, American Physical Society Meeting, Denver, Colorado (April 2019)
  - **G. Weldon**, *Continuous Gravitational Wave Simulations*, Society of Physics Students Talk, University of Michigan (November 2018)

## ORGANIZATIONS

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

## OUTREACH

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<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>

## RELEVANT COURSEWORK

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### Physics

- General Relativity (Graduate)\*
- High-Energy Astrophysics
- Quantum Mechanics\*
- Classical Mechanics

### Mathematics

- Probability\*
- Linear Algebra
- Honors Differential Equations

[\* denotes Fall 2019 enrollment]

## TECHNICAL KNOWLEDGE

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