

# GRANT C. WELDON

gcweldon@umich.edu

## EDUCATION

**B.S. Honors Physics, Mathematics**, *University of Michigan*  
Concentration in Mathematical Physics

2017 - 2021  
*Ann Arbor, MI*

## RESEARCH INTERESTS

General relativity, relativistic astrophysics, gravitational waves

## RESEARCH EXPERIENCE

**NASA Goddard Space Flight Center**

GRAVITATIONAL ASTROPHYSICS LABORATORY · LISA GROUP

*Advisors:* Dr. Jacob Slutsky, Dr. Ira Thorpe, and Dr. Quentin Baghi

· Investigated tilt-to-length couplings in LISA and impacts on white dwarf binary gravitational wave searches

June 2020 - August 2020

*Virtual* (COVID-19 pandemic)

**Istituto Nazionale di Fisica Nucleare (INFN)**

UNIVERSITY OF ROME TOR VERGATA · VIRGO GROUP

*Advisors:* Prof. Viviana Fafone and Dr. Elisabetta Cesarini

· Optical metrology for thermal noise reduction in the Virgo gravitational wave interferometer

June 2019 - July 2019

*Rome, Italy*

**University of Michigan Physics Department**

LIGO SCIENTIFIC COLLABORATION · MICHIGAN GRAVITATIONAL WAVE GROUP

*Advisor:* Prof. Keith Riles

· Gravitational wave data analysis in searches for continuous waves from spinning neutron stars

April 2018 - Present

*Ann Arbor, MI*

## HONORS & AWARDS

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

## PUBLICATIONS

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

4. **NASA Intern Presentation Symposium**, Virtual (COVID-19 Pandemic) (August 2020); presented a talk, *Data analysis impacts of tilt-to-length couplings in the LISA gravitational wave detector*
3. **University of Michigan Physics Research Fair**, Ann Arbor, MI (November 2019); presented a poster, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
2. **Midwest Relativity Meeting**, APS Division of Gravitational Physics, Grand Valley State University (October 2019); presented a talk, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
1. **American Physical Society (APS) April Meeting**, 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><br><i>Division of Gravitational Physics</i> | 2017 - Present |
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## ORGANIZATIONS

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| <b>Society of Physics Students (SPS)</b><br><i>President</i> (2020 - 2021)<br><i>Vice President</i> (2019 - 2020)<br><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><br><i>Panelist</i>                              | June 2020<br><i>Virtual</i>            |
| <b>SPS Biweekly Speaker Series</b><br><i>Coordinator</i>  | 2019 - 2020<br><i>Ann Arbor, MI</i>    |
| <b>Michigan Science Center - Physics Demo Day</b><br><i>Volunteer</i> with SPS ( <i>Coordinator</i> in 2019)  | 2018 - Present<br><i>Detroit, MI</i>   |
| <b>Ann Arbor Hands-On Museum - Physics Palooza</b><br><i>Volunteer</i> with SPS ( <i>Coordinator</i> in 2019) | 2018 - Present<br><i>Ann Arbor, MI</i> |
| <b>Burns Park Elementary School - Physics Night</b><br><i>Volunteer</i> with SPS                              | 2017<br><i>Ann Arbor, MI</i>           |

## OTHER ACADEMIC EXPERIENCE

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

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