

# Geoffrey George Gaswint *April 15, 1992*

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## Software Experience

ARIANNA and Theory group at UCI

IRVINE, CALIFORNIA

Graduate Student Researcher

Apr '17 – Dec '20

- Simulation and analysis (python/c++) of both neutrino detectors and matter-antimatter asymmetry breaking
- Led science expeditions in Antarctica (in situ python)

Raytheon

TUCSON, ARIZONA

Systems Engineer

Nov '15 – Sep '16

- Performance simulation and analysis (matlab/c++)

CDMS and LUX

BERKELEY, CALIFORNIA

Undergraduate Researcher

Nov '13 – July '15

- Simulation and analysis (c++) of dark matter detectors
  - analyzed CCD images (python)
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## Education

University of California, Irvine

IRVINE, CALIFORNIA

Doctorate and Masters in Physics

2016 – Dec 2020

Focused on software techniques for particle physics

University of California, Berkeley

BERKELEY, CALIFORNIA

Bachelor of Arts in Physics, Bachelor of Arts in Mathematics

2012 – Dec 2014

Focused on dark matter physics and quantum mechanics.

Grossmont College and San Diego Mesa College and Southwestern College

SAN DIEGO, CALIFORNIA

Associate of Arts in German

2010 – 2012

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## Publications

NuRadioReco: A reconstruction framework for radio neutrino detectors

[arXiv: 1903.07023](#)

Probing the angular and polarization reconstruction of the ARIANNA detector at the South Pole

[arXiv: 2006.03027](#)

White Paper: ARIANNA-200 high energy neutrino telescope

[arXiv: 2004.09841](#)

Neutrino vertex reconstruction with in-ice radio detectors using surface reflections

[arXiv: 1909.02677](#)

Targeting ultra-high energy neutrinos with the ARIANNA experiment

[arXiv: 1903.01609](#)

Revisiting Electroweak Phase Transition with Varying Yukawa Coupling Constants

[arXiv: 1810.02522](#)

Observation of classically 'forbidden' electromagnetic wave propagation

[arXiv: 1804.10430](#)

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## Personal Projects

iOS and Android apps

DodgerMan3000 (iOS, Android), MyBestFriend (iOS, Android), TapThis!/TapThat! (iOS, Android)

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## Skills

**Advanced:** Python • Java • React Native • ReactJS • LaTeX • Physics • Math

**Moderate:** C++ • MatLab • Linux Systems

**Natural languages:** English (*Fluent*) • German (*Intermediate*)

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## Interests

**Non-exhaustive:** Programming (app development on iOS and Android), teaching, racquet ball, scuba diving, ukulele, and waltz dancing.

## References

- Steven Barwick - Principal investigator at ARIANNA, UCI - (510) 486-7731
- Mu-Chun Chen - Principal investigator at Theoretical Particle Physics Collaboration, UCI - (510) 486-7731
- Greg Holmes - Team Manager at Raytheon - (520) 909-5831
- Nick Valverde - Systems Engineer at Raytheon - (520) 820-9391
- Kevin Lesko - Senior Physicist at LUX - (510) 486-7731
- Arran Phipps - Graduate Research Lead at CDMS - (650) 290-0769