



Marcell Howard

Curriculum Vitae

PERSONAL DETAILS

Address 3941 OHara Street, Pittsburgh, PA 15260 USA
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Website <https://marcellhoward.github.io/>

EDUCATION

University of Pittsburgh, Pittsburgh, PA 2019 - Present
Ph.D., Physics and Astronomy

Case Western Reserve University, Cleveland, OH 2015 - 2019
B.S., Mathematics and Physics

RESEARCH EXPERIENCE

Graduate Research Assistant 2020 - Present
University of Pittsburgh advised by Arthur Kosowsky

Senior Honor's Thesis 2018 - 2019
Case Western Reserve University advised by Kurt Hinterbichler

Research Experience for Undergraduates Summer 2018
Rutgers, the State University of New Jersey advised by Andrew Baker

Research Experience for Undergraduates Summer 2017
Cornell University advised by Gordon Stacey

PUBLICATIONS

Alexander, S., Daniel, T., Howard, M., & Konig, M. (2022). *An exact fermionic chern-simons-kodama state in quantum gravity*. arXiv. Retrieved from <https://arxiv.org/abs/2207.11856> doi: 10.48550/ARXIV.2207.11856

Howard, M., Kosowsky, A., & Valogiannis, G. (2022). *Galaxy cluster statistics in modified gravity cosmologies*. arXiv. Retrieved from <https://arxiv.org/abs/2205.13015> doi: 10.48550/ARXIV.2205.13015

Howard, M., Baker, A. J., & Wu, J. F. (2019, January). Probing the Evolution of Galaxies by Stacking Stellar Mass Selected Samples. In *American astronomical society meeting abstracts #233* (Vol. 233, p. 145.08).

TEACHING EXPERIENCE

Graduate Teaching Assistant

PHYS 0111: Introduction to Physics 2

PHYS 0174: Basic Physics for Science and Engineering I

PHYS 0175: Basic Physics for Science and Engineering II

PHYS 0212: Introduction to Laboratory Physics

- Held two-four recitation sessions per week.
- Graded quizzes and tests.

Undergraduate Supplemental Instructor

MATH121: Calculus for Scientists and Engineers I

MATH122: Calculus for Scientists and Engineers II

- Held three small groups and one recitation session per week.
- Graded quizzes and tests.

Undergraduate Teaching Assistant

PHYS121: General Physics I Mechanics

PHYS122: General Physics II - Electricity and Magnetism

- Graded written homework handed in every week.
- Handed out in class assignments and provided help to various students.

TALKS AND POSTER PRESENTATIONS

Case Western Reserve University

Sept 2022

An Exact Fermionic Chern-Simons-Kodama State in Quantum Gravity

Invited talk

American Physical Society April Meeting 2022

Apr 2022

Galaxy Cluster Statistics in Modified Gravity Cosmologies

Contributed talk

Brown University

Mar 2022

Galaxy Cluster Statistics in Modified Gravity Cosmologies

Invited talk

National Society of Black Physicists

Nov 2021

Galaxy Cluster Statistics in Modified Gravity Cosmologies

Contributed talk

Case Western Reserve University

May 2019

The People vs Mimetic Gravity

Contributed poster and talk

American Astronomical Society Meeting (Seattle, WA)

Jan 2019

Probing the Evolution of Galaxies Using Stellar Mass Selected Samples

Contributed poster

Case Western Reserve University

Oct 2018

Counting the Degrees of Freedom in Mimetic Gravity

Contributed talk

Rutgers, the State University of New Jersey

Aug 2018

Probing the Evolution of Galaxies Using Stellar Mass Selected Samples

Contributed poster and talk

Cornell University

Aug 2017

Using Far-Infrared Fine-Structure Lines for Characterizing the Star Formation Processes in Nearby Galaxies

Contributed poster and talk

SKILLS

<i>Programming</i>	Python, Mathematica, Matlab
<i>Software</i>	SciPy/matplotlib, AstroPy, git

PROFESSIONAL ORGANIZATIONS

Pittsburgh Particle Astrophysics and Cosmology Center (PITT PACC) *2020 - Present*

National Society of Black Physicists *2018 - Present*

FELLOWSHIPS AND AWARDS

2021 Honorable Mention for the Ford Foundation Predoctoral Fellowship *2021*

Dietrich School of Arts and Sciences Summer Research Predoctoral Fellowship
2020

Kenneth P. Dietrich School of Arts & Sciences Fellowship *2019*

Hayden Scholarship *2017*

Gaemsslen Grant Fund *2017*

Case Alumni Scholarship *2017*

University Scholarship *2015*

CWRU Grant *2015*