

# Marcell Howard

*Curriculum Vitae*

## PERSONAL DETAILS

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*Address*            510 S Highland Ave, Pittsburgh, PA, 15206  
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## EDUCATION

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**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

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**University of Pittsburgh** *Spring 2020-Present*  
*Research Project advised by Arthur Kosowsky*  
Investigated simulation data of theories of modified gravity and their effects on the growth and evolution on large scale structure

**Case Western Reserve University** *Fall 2018-Spring 2019*  
*Senior Thesis advised by Kurt Hinterbichler*  
Investigated the possible deviations that a theory of dark energy may have from General Relativity by applying the 3 of the 4 classical tests of General Relativity

**Rutgers University** *Summer 2018*  
*Research Experience for Undergraduates advised by Andrew Baker*  
Probed the evolution of galaxies by stacking stellar mass selected samples by developing a pipeline that automated the process for modeling the stellar population in over 2000 galaxies

**Cornell University** *Summer 2017*  
*Research Experience for Undergraduates advised by Gordon Stacey*  
Used far-infrared fine structure lines for characterizing the star formation processes in nearby galaxies by using Python to process, analyze, and perform calculations on various data files

## TEACHING EXPERIENCE

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**Teaching Assistant** *Spring 2020*  
*PHYS 0176: Basic Physics for Science and Engineering II*

- Held 4 recitation sessions per week.
- Graded quizzes and tests.

**Supplemental Instructor** *Fall 2017-Spring 2019*  
*MATH121+122: Calculus for Scientists and Engineers I and II*

- Held 3 small groups and 1 recitation session per week.
- Graded quizzes and tests.

**Teaching Assistant***Fall 2017-Spring 2019*

*PHYS121+122: General Physics I – Mechanics and 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**

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**Case Western Reserve University***Oct 2018, May 2019*

*Counting the Degrees of Freedom in Mimetic Gravity*

Contributed poster and talk

**Rutgers University***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**

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

**AWARDS**

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**Dietrich School of Arts and Sciences Summer Research Predoctoral Fellowship** *June 2020*

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

**Hayden Scholarship** *Dec 2017*

**Gaemsslen Grant Fund** *Dec 2017*

**Case Alumni Scholarship** *May 2017*

**University Scholarship** *Sept 2015*

**CWRU Grant** *Sept 2015*