

ANDREW WETZEL
 ASSOCIATE PROFESSOR
 DEPARTMENT OF PHYSICS & ASTRONOMY
 UNIVERSITY OF CALIFORNIA, DAVIS
 ONE SHIELDS AVENUE
 DAVIS CA 95616
 AWETZEL@UCDAVIS.EDU

RESEARCH INTERESTS

theoretical astrophysics and cosmology
 computational methods of cosmological simulations
 cosmological structure formation: halos, galaxies, stars
 near-field cosmology: dark matter and its distribution in the local Universe
 galactic archeology: formation history of the Milky Way and galaxies in the Local Group

APPOINTMENTS

Associate Professor	2021 -
Assistant Professor	2016 - 2021
Department of Physics & Astronomy, University of California, Davis	
Caltech - Carnegie Fellow	2013 - 2017
Moore Prize Scholar – TAPIR, California Institute of Technology	
Carnegie Fellow – The Observatories of the Carnegie Institution for Science	
Postdoctoral Research Associate – Department of Astronomy, Yale University	2010 - 2013
NSF Graduate Fellow, Graduate Researcher – Department of Astronomy, UC Berkeley	2005 - 2010
Research Associate – Theoretical Astrophysics Group, Los Alamos National Laboratory	2005

EDUCATION

Ph.D. in Astrophysics – University of California, Berkeley	2010
M.A. in Astrophysics – University of California, Berkeley	2007
B.S. in Physics with Honors & High Distinction – Harvey Mudd College	2005

HONORS & AWARDS

Graduate Program Advising and Mentoring Award – UC Davis	2022
NSF CAREER award – National Science Foundation	2021
Hellman Fellow – Society of Hellman Fellows	2019
Scialog Fellow – Research Corporation, Heising-Simons Foundation	2018, 2019
Kavli Frontiers of Science Fellow – National Academy of Sciences	2013
NSF Graduate Research Fellow – National Science Foundation	2007 - 2010
Delegate – National Youth Science Camp	2001

RESEARCH ADVISING

POSTDOCS

Samantha Benincasa 2018 - 2020
 Sarah Loebman (NASA Hubble Fellow, UC Davis Chancellor's Fellow) 2017 - 2020

PHD STUDENTS

Megan Barry 2021 -
 Preet Patel 2020 -
 Fiona McCluskey 2019 -
 Pratik Gandhi (Frontera Fellow) 2019 -
 Matt Bellardini 2018 -
 Isaiah Santistevan (NASA FINESST awardee) 2018 -
 Jenna Samuel 2018 - 2021

UNDERGRADUATE STUDENTS

Rachel Perelgut 2022
 Russell Graf 2022
 Heather Pearson (Oberlin College) – REU 2022
 Pedro Jesus Quinonez (Sonoma State University) – Cal-Bridge program 2021 -
 Bhavya Pardasani (U of Illinois) – REU 2021
 Sierra Chapman – Honors Thesis 2018 - 2019
 Preet Patel (U of Michigan) – BlueWaters Student Internship 2018 - 2020
 Kareem El-Badry (Yale University) – Caltech SURF 2015

CONFERENCE ORGANIZING

Bay Area Local Group Workshop – Berkeley, CA Oct 2018
Dynamics of the Milky Way System in the Era of Gaia – Aspen, CO Aug 2018
IUPAP Conference on Computational Physics – Davis, CA July 2018
The Life and Death of Satellite Galaxies – Leiden, Netherlands Apr 2015

PROFESSIONAL SERVICE

UC Mentor for Cal-Bridge program 2020 -
 Telescope Time Allocation Committee
 Hubble Space Telescope (external)
 University of California Observatories (2 semesters) 2019
 Caltech Optical Observatories (2 semesters) 2015
 Yale University (3 semesters) 2012 - 2013
 Grant Review
 NSF Faculty Early Career Development Program (CAREER)
 NSF Astronomy & Astrophysics Postdoctoral Fellowships (AAPF) (external)
 NSF Astronomy & Astrophysics Research Grants (AAG)
 NASA Astrophysics Theory Program (ATP)
 Journal Review
 Nature Astronomy, *Physical Review Letters* (PRL),
 The Astrophysical Journal Letters (ApJL), *The Astrophysical Journal* (ApJ),
 Monthly Notices of the Royal Astronomical Society (MNRAS)

MUSIC

Carillonneur Member: Guild of Carillonneurs in North America 2010 -

GRANT FUNDING AWARDED (\$7.0 MILLION TOTAL, \$3.0 MILLION TO WETZEL)

PI: NSF – Faculty Early Career Development Program (CAREER) – \$800,117 <i>Galactic Archeology: Understanding the Building Blocks of the Milky Way across Cosmic Time</i>	2021
PI (with Laura Sales) NSF - Astronomy & Astrophysics Research Grant – \$574,714 (\$273,175 to Wetzel) <i>Collaborative Research: Magellanic Dwarfs as a Key Laboratory for Dwarf Galaxy Formation</i>	2021
PI (FI Isaiah Santistevan): NASA – FINESST Program – \$90,000 <i>Modeling the Cosmological Evolution of Satellite Dwarf Galaxies in 6D Phase Space</i>	2021
co-I (PI Tony Sohn): NASA STScI – HST GO (Cycle 28) – \$367,209 (\$28,382 to Wetzel) <i>Andromeda & the Seven Dwarfs: M31 Mass, Satellite Orbits, & the Nature of the Satellite Plane</i>	2020
co-PI (PI Robyn Sanderson) NASA – Astrophysics Theory Program – \$498,022 (\$171,347 to Wetzel) <i>Predicting Observable Signatures for Dynamical Interactions between Dark-Matter...</i>	2019
PI: NASA STScI – HST Legacy Theory Program (Cycle 27) – \$415,402 (\$215,460 to Wetzel) <i>Probing the Epoch of Reionization with the Fossil Record of Nearby Dwarf Galaxies</i>	2019
co-PI (PI Dan Weisz) NASA STScI – HST Treasury Program (Cycle 27) – \$1.7 million (\$204,403 to Wetzel) <i>Tracing the 6-D Orbital & Formation History of the Complete M31 Satellite System</i>	2019
PI (with Keith Hawkins and Jennifer van Saders) Heising-Simons Foundation – \$165,000 (\$55,000 to Wetzel) <i>Aging Gracefully: Stellar Ages Across the HR Diagram & Implications for Galactic Archeology</i>	2019
PI: UC Davis Hellman Fellowship – \$18,000 <i>Using Stars as Gravitational Antennae to Measure Dark Matter</i>	2019
PI: NASA – Astrophysics Theory Program – \$394,195 <i>Modeling Galactic Archeology of the Milky Way</i>	2017
Admin PI: NASA STScI – Hubble Fellowship for Sarah Loebman – \$342,764 <i>Mapping the Dark Matter in the Milky Way using Next-Generation Cosmological Simulations</i>	2017
PI: NASA STScI – HST Theory Program (Cycle 25) – \$115,600 <i>Understanding the Physics of Gas Stripping and Star-Formation Quenching...</i>	2017
co-PI (PI Nitya Kallivayalil) NASA STScI – HST Treasury Program (Cycle 24) – \$725,754 (\$218,014 to Wetzel) <i>Milky Way Cosmology: Laying the Foundation for Full 6-D Dynamical Mapping...</i>	2016
co-I (PI James Bullock): NASA STScI – HST Theory Program (Cycle 24) – \$120,000 <i>Accurate Predictions for Dark Matter Substructure</i>	2016
co-I (PI Daisuke Nagai): NSF – Astronomical Sciences – \$494,000 <i>Modeling the Cosmic Melting Pots in the Outskirts of Galaxies and Galaxy Clusters</i>	2014
co-I (PI Andrew Benson): NASA STScI – HST Theory Program (Cycle 22) – \$120,000 <i>Going out with a bang or a whimper? Star Formation and Quenching in the Local Group...</i>	2014

SUPERCOMPUTING AWARDED (731 MILLION CORE-HOURS, \$11.8 MILLION IN VALUE)

co-PI (PI Sarah Loebman): XSEDE Stampede-2 – 3.4 million core-hours <i>Simulating Star Clusters & GMCs Across the Milky Way</i>	2022
PI (FI Isaiah Santistevan): NASA Pleiades – 4.9 million core-hours <i>Modeling the Cosmological Evolution of Satellite Dwarf Galaxies in 6D Phase Space</i>	2021
co-I (PI Phil Hopkins): NSF Frontera – 100.8 million core-hours <i>Simulating New Physics on Cosmological Scales: The Feedback In Realistic Environments Project</i>	2021
PI : NASA Pleiades – 16.5 million core-hours <i>Tracing the 6-D Orbital & Formation History of the Complete M31 Satellite System</i>	2021
PI : NASA Pleiades – 19.5 million core-hours <i>Probing the Epoch of Reionization with the Fossil Record of Nearby Dwarf Galaxies</i>	2021
co-I (PI Phil Hopkins): NSF Frontera – 100.8 million core-hours <i>Testing Fundamentally New Physics in Galaxies</i>	2021
PI : XSEDE Stampede-2 and Bridges-2 – 10.6 million core-hours <i>The Milky Way: A Billion Particles on FIRE</i>	2020
PI : XSEDE Stampede-2 – 1.7 million core-hours – <i>Simulating the Milky Way with the LMC</i>	2019
PI : NASA Pleiades – 31.2 million core-hours – <i>Modeling Galactic Archeology of the Milky Way</i>	2019
co-I (PI Phil Hopkins): NSF Frontera – 127.7 million core-hours <i>Probing New Physics in Galaxy Formation at Ultra-High Resolution</i>	2019
PI : NASA Pleiades – 14.3 million core-hours <i>Understanding the Physics of Gas Stripping & Star-Formation Quenching...</i>	2018
PI : XSEDE Stampede-2 – 5.6 million core-hours – <i>Simulating the Local Group</i>	2017
co-I (PI Joseph Smidt): LANL Grizzly – 30 million core-hours <i>Simulating the Dark Matter Distribution in the Local Group</i>	2017
co-I (PI Phil Hopkins): NCSA Blue Waters – 160 million core-hours <i>Probing New Physics in Galaxy Formation at Ultra-High Resolution</i>	2017
PI : NASA Pleiades – 16.4 million core-hours <i>Simulating the Proper Motions of Dwarf Galaxies around the Milky Way</i>	2016
co-I (PI Phil Hopkins): NASA Pleiades – 31.2 million core-hours <i>FIRE: Dark Matter & Galaxy Formation with Unprecedented Physics and Resolution</i>	2016
co-I (PI Shea Garrison-Kimmel): NASA Pleiades – 22 million core-hours <i>The Local Group: Galaxy Formation in the Nearby Universe</i>	2016
PI : XSEDE Stampede – 3.6 million core-hours – <i>Simulating the Local Group</i>	2016
PI : NASA Pleiades – 1.2 million core-hours – <i>Dwarf Galaxies of the Large Magellanic Cloud</i>	2015
co-I (PI Phil Hopkins): NASA Pleiades – 18 million core-hours <i>The Milky Way: Dark Matter & Galaxy Formation with Unprecedented Physics</i>	2014
co-PI (PI Phil Hopkins): XSEDE Stampede – 12 million core-hours <i>The Milky Way: A Billion Particles on FIRE</i>	2014

TELESCOPE OBSERVING AWARDED

(HST: 549 ORBITS, JWST: 27 HOURS, KECK: 13.5 NIGHTS, VLT: 317 HOURS)

co-I (PI Jesse Van de Sande): VLT MUSE - 317 hours <i>GECKOS: Turning galaxy evolution on its side with deep observations of edge-on galaxies</i>	2022
co-I (PI Tony Sohn): HST GO (Cycle 28) - 48 orbits <i>Andromeda & the Seven Dwarfs: M31 Mass, Satellite Orbits, & the Nature of the Satellite Plane</i>	2020
co-I (PI Adam Smercina): HST GO (Cycle 28) - 31 orbits <i>A Benchmark Survey of Resolved Stellar Populations in the Nearest Ultra Diffuse Galaxy, F8D1</i>	2020
co-I (PI Yumi Choi): HST GO (Cycle 28) - 5 orbits <i>Near Field Cosmology with Ultra-faint Dwarfs: Patchy Reionization & Sub-Solar IMF</i>	2020
co-PI (PI Dan Weisz): HST Treasury Program (Cycle 27) - 244 orbits <i>Tracing the 6-D Orbital & Formation History of the Complete M31 Satellite System</i>	2019
co-I (PI Erik Tollerud): HST GO (Cycle 27) - 19 orbits <i>COS-SAGA: The Circumgalactic Medium of Nearby Milky Way Analogs & their Satellites</i>	2019
co-I (PI Alexie Leauthaud): Keck - 2 nights <i>Testing the Feedback-driven Breathing Mode in Dwarf Galaxies at $z \approx 0.1$</i>	2019
co-I (PI Tucker Jones): Keck - 7 nights <i>Dissecting Galaxy Formation & Testing Feedback Models on 100 pc Scales</i>	2017–2019
collaborator (PI Dan Weisz): JWST ERS (Cycle 1) - 27 hours <i>The Resolved Stellar Populations Early Release Science Program</i>	2017
co-I (PI Dan Weisz): Keck - 2.5 nights – <i>Stellar Chemistry in Isolated Dwarf Galaxies</i>	2017
co-PI (PI Nitya Kallivayalil): HST Treasury Program (Cycle 24) - 164 orbits <i>Milky Way Cosmology: Laying the Foundation for Full 6-D Dynamical Mapping of the Nearby Universe</i>	2016
PI : Keck - 1 night <i>Constraining Star-Formation Quenching Mechanisms using Isolated Low-Mass Galaxies</i>	2015
co-I (PI Tony Sohn): HST GO (Cycle 23) - 14 orbits <i>The First Proper Motions of Ultra-faint Dwarf Galaxies</i>	2015
PI : Keck – 1 night – <i>Testing Star-Formation Quenching using Isolated Dwarf Galaxies</i>	2014
co-I (PI Michael Balogh): Gemini South - 438 hours <i>GOGREEN Survey of Dense Galaxy Environments at $1 < z < 1.5$</i>	2014