

Jonathan Cohn

Texas A&M University, Department of Physics & Astronomy
College Station, TX 77843-4242

Website: jhcohn.github.io
ORCID: [0000-0003-1420-6037](https://orcid.org/0000-0003-1420-6037)
Email: joncohn@tamu.edu

RESEARCH INTERESTS

Supermassive black holes • black hole–host galaxy correlations • gas- and stellar-dynamical modeling of galaxies • sub-millimeter/radio astronomy • black hole growth and evolution • galaxy formation and evolution • kinematics of nuclear gas disks • quiescent galaxies • relic galaxies • massive galaxies • starbursting galaxies • extreme emission-line galaxies • SED fitting • star formation histories • gravitational microlensing

EDUCATION

Ph.D., Astronomy August 2022 (expected)
Advisor: Dr. Jonelle Walsh, Texas A&M University

M.S., Astronomy May 2019
Advisor: Dr. Kim-Vy Tran, Texas A&M University

B.S., Physics, *Magna Cum Laude* May 2016
Advisors: Dr. Michael Kesden & Dr. Lindsay King, The University of Texas at Dallas

RESEARCH EXPERIENCE

Research Assistant Summer 2017 & 2018, Spring 2019 – present
Department of Physics & Astronomy, Texas A&M University

Undergraduate Research Assistant Summer 2015
Department of Physics, The University of Texas at Dallas

OBSERVATION AND DATA REDUCTION EXPERIENCE

Observations at McDonald Observatory Apr 2018, Jan 2020
2.7m telescope, VIRUS-P and VIRUS-W (11 nights)

Observations at Keck Observatory Mar 2019
MOSFIRE, Keck I (2 nights)
Keck Cosmic Web Imager, Keck II (1 night)

ALMA data reduction workshop 13 – 15 Mar 2019
National Radio Astronomy Observatory, Charlottesville, VA

TEACHING EXPERIENCE

Teaching Assistant — Instructor of Record Summer 2017 – Spring 2018
Astronomy 102: Observational Astronomy
Department of Physics & Astronomy, Texas A&M University

Teaching Assistant Fall 2016 – Spring 2017, Fall 2018
Astronomy 101: Basic Astronomy
Department of Physics & Astronomy, Texas A&M University

Private Tutor
General Chemistry
College Station, Texas

Fall 2016 – Spring 2017

Undergraduate Teaching Assistant
Weather & Climate
Department of Physics, The University of Texas at Dallas

Fall 2015 – Spring 2016

Peer-led Team Learning Super Leader
PLTL Leader and Coordinator, General Chemistry I & II
Student Success Center, The University of Texas at Dallas

Fall 2015 – Spring 2016

Peer-led Team Learning Leader
PLTL Leader, General Chemistry I & II
Student Success Center, The University of Texas at Dallas

Fall 2013 – Spring 2016

PUBLICATIONS

First-Author

- *An ALMA Gas-dynamical Mass Measurement of the Supermassive Black Hole in the Local Compact Galaxy UGC 2698*
J. Cohn, J. L. Walsh, B. D. Boizelle, and 9 additional authors
The Astrophysical Journal (2021), 919, 77
- *ZFOURGE: Extreme 5007 Å emission may be a common early-lifetime phase for star-forming galaxies at $z > 2.5$*
J. Cohn, J. Leja, K-v. H. Tran, and 12 additional authors
The Astrophysical Journal (2018), 869, 141

Co-Author

- *Gas inflows in the polar ring of NGC 4111: the birth of an AGN*
G. R. H. Roier, T. Storchi-Bergmann, R. M. McDermid, J. L. Walsh, J. Tan, **J. Cohn**, and 11 additional authors
Monthly Notices of the Royal Astronomical Society (2022), 512, 2556
- *Black Hole Mass Measurements of Radio Galaxies NGC 315 and NGC 4261 Using ALMA CO Observations*
B. D. Boizelle, J. L. Walsh, A. J. Barth, D. A. Buote, A. J. Baker, J. Darling, L. C. Ho, **J. Cohn**, K. M. Kabasares
The Astrophysical Journal (2021), 908, 19
- *MOSEL: Strong [OIII] 5007 Å Emitting Galaxies at ($3 < z < 4$) from the ZFOURGE Survey*
K-v H. Tran, B. Forrest, L.Y. Alcorn, T. Yuan, T. Nanayakkara, **J. Cohn**, and 10 additional authors
The Astrophysical Journal (2020), 898, 45
- *A giant galaxy in the young Universe with a massive ring*
T. Yuan, A. Elagali, I Labbé, G. G. Kacprzak, C. del P. Lagos, L. Y. Alcorn, **J. Cohn**, and 8 additional authors
Nature Astronomy (2020), 4, 957
- *MOSEL Survey: Tracking the Growth of Massive Galaxies at $2 < z < 4$ Using Kinematics and the IllustrisTNG Simulation*
A. Gupta, K-v. H. Tran, **J. Cohn**, and 13 additional authors
The Astrophysical Journal (2020), 893, 23
- *A Tale of Two Clusters: An Analysis of Gas-phase Metallicity and Nebular Gas Conditions in Proto-cluster Galaxies at $z \sim 2$*

L. Y. Alcorn, A. Gupta, K-V. H. Tran, G. G. Kacprzak, T. Yuan, **J. Cohn**, and 9 additional authors
The Astrophysical Journal (2019), 883, 153

- *ZFOURGE: Using Composite Spectral Energy Distributions to Characterize Galaxy Populations at $1 < z < 4$*

B. Forrest, K-v.H. Tran, A. Broussard, **J. Cohn**, and 11 additional authors
The Astrophysical Journal (2018), 863, 131

- *Detecting binarity of GW150914-like lenses in gravitational microlensing events*

D.H. Eilbott, A.H. Riley, **J.H. Cohn**, M.H. Kesden, L.J. King
Monthly Notices of the Royal Astronomical Society Letters (2017), 467 (1)

AWARDS

Climate & Diversity Committee, Department of Physics & Astronomy (\$1800) Spring 2022
Primary Investigator, Gateway to Graduate School, Texas A&M University

College of Science Diversity Committee, Small Grants Program (\$2000) Spring 2022
Primary Investigator, Gateway to Graduate School, Texas A&M University

Mitchell Institute Education & Public Outreach (\$600) Fall 2019, (\$1,200) Fall 2020
Co-investigator, Astronomy on Tap, Texas A&M University

Office of Graduate and Professional Studies Travel Award (\$800) Fall 2019
Texas A&M University

Undergraduate Research Award (\$500) 2014 – 2015
The University of Texas at Dallas

STEM Columbia Crew Memorial Scholarship (\$1500) 2014 – 2015
Texas Space Grant Consortium

Academic Excellence Scholarship, Honors (~\$30,000/year) 2012 – 2016
The University of Texas at Dallas

CONFERENCES AND PRESENTATIONS

- Texas A&M Astronomy Symposium, College Station, TX
 - Talk: *Gas-dynamical mass measurement of Supermassive Black Holes in local compact galaxies* 27 Aug 2021
 - Talk: *Gas-dynamical mass measurement of the Supermassive Black Hole in UGC 2698* 17 Aug 2020
 - Talk: *Estimating the masses of supermassive black holes in compact elliptical galaxies* 23 Aug 2019
 - Talk: *Extreme emission may be a common early-lifetime phase for star-forming galaxies at $z > 2.5$* 24 Aug 2018
 - Talk: *Properties of Extreme Emission Line Galaxies in ZFOURGE from Prospector- α* 25 Aug 2017
 - Talk: *Detectability of GW150914-like events by gravitational microlensing* 26 Aug 2016
- Joint Nuclear and Astrophysics Seminar, Texas A&M University (Virtual) 21 May 2021
 - Talk: *Gas-dynamical mass measurement of the Supermassive Black Hole in UGC 2698 with ALMA*
- 237th Meeting of the American Astronomical Society (Virtual) 14 Jan 2021
 - Talk: *Gas-dynamical mass measurement of the Supermassive Black Hole in UGC 2698 with ALMA*
- *Supermassive Black Holes 2020* (Virtual, Universidad de Concepción, Chile) 7 – 11 Dec 2020
 - Talk: *Gas-dynamical mass measurement of the SMBH in UGC 2698 with ALMA*

- IAU Symposium 359: Galaxy Evolution and Feedback Across Different Environments (GALFEED), Bento Gonçalves, Rio Grande do Sul, Brazil 2 – 6 Mar 2020
Poster and flash talk: *Gas-dynamical mass of the supermassive black hole in UGC 2698*
- Frank N. Bash Symposium, The University of Texas at Austin, Austin, TX 21 – 23 Oct 2019
Poster and flash talk: *Gas-dynamical mass of the supermassive black hole in UGC 2698*
- Poster and flash talk: *Star Formation Histories of Extreme Emission Line Galaxies at $z \sim 3.5$ in the ZFOURGE Survey* 23 – 25 Oct 2017
- [Understanding emission-line galaxies for the next generation of cosmological surveys](#), Centro de Estudios de Física del Cosmos de Aragón, Teruel, Spain 5 Sept 2018
Talk: *ZFOURGE: Extreme 5007 Å emission may be a common early-lifetime phase for star-forming galaxies at $z > 2.5$*
- 231st Meeting of the American Astronomical Society, Washington, DC 9 Jan 2018
Talk: *Star Formation Histories of Extreme Emission Line Galaxies at $z \sim 3.5$ in the ZFOURGE Survey*
- [Plumbing Star Formation Rates in the Age of JWST](#), College Station, TX 1 Nov 2017
Talk: *Star Formation Histories of Extreme Emission Line Galaxies at $z \sim 3.5$ in the ZFOURGE Survey*
- Fall 2017 Joint Meeting of the Texas Section of the APS, Richardson, TX 20 Oct 2017
Talk: *Star Formation Histories of Extreme Emission Line Galaxies at $z \sim 3.5$ in the ZFOURGE Survey*
- 2016 ZFOURGE Team meeting, Magnolia, TX 24-28 Oct 2016
Talk: *Extreme emission-line galaxy properties*
- Fall 2015 Joint Meeting of the Texas Section of the APS, Waco, TX 30 Oct 2015
Talk: *Gravitational microlensing by binary black holes*
- The University of Texas at Dallas Undergraduate Research Poster Competition 7 Apr 2015
Poster: *Gravitational microlensing by binary black holes*

MEMBERSHIPS

American Astronomical Society
Sigma Pi Sigma Physics Honor Society

SKILLS

Data reduction: Sub-millimeter/radio (ALMA), optical/IR imaging (*HST*)
Data & modeling: nested sampling (*dynesty*), Markov Chain Monte Carlo (*emcee*), forward modeling, high-performance computer clusters
Techniques: SED-fitting, gas-dynamical modeling, *astrodrizzle*, *GALFIT*
Fluent: python, L^AT_EX, git
Experience with: html, IDL, Bash, R, casa, SQL, iraf, SLURM and LSF batch systems, virtual machines

MENTORSHIP

[Mentoring and Advising Graduates in an Inclusive Community \(MAGIC\)](#) Fall 2019 — present
 Program founder, coordinator, primary mentor, & supplementary mentor
 Texas A&M University, Department of Physics & Astronomy

[Discover, Explore, and Enjoy Physics and Engineering \(DEEP\) & Physics Shows](#) Fall 2017 — Fall 2021
 Astronomy Team Mentor
 Design, build, and present physics, engineering, and astronomy demonstrations
 Texas A&M University, Department of Physics & Astronomy

OUTREACH AND VOLUNTEER WORK

[Gateway to Graduate School](#) at Texas A&M University Spring 2022 – present
 Open house for undergraduates from historically-excluded backgrounds in astronomy
 Program founder and organizer

TAMU Astronomy Graduate Student Representative June 2021 – present
 Attend astronomy faculty meetings and represent graduate student interests
 Texas A&M University, Department of Physics & Astronomy

[Warrior Scholar Project](#), Texas A&M University Summer 2021
 STEM Week: Astronomy In the News presenter

TAMU Astronomy Graduate Handbook Spring 2021
 Creator, head writer
 Texas A&M University, Department of Physics & Astronomy

[Texas A&M Astronomy graduate student website](#) Spring 2021
 Co-creator and head writer of website for prospective and incoming graduates

[Conferences for Undergraduate Women in Physics at TAMU](#), College Station, TX 17 – 19 Jan 2020
 Panel moderator, poster session judge, volunteer

[Letters to a Pre-Scientist](#) Fall 2018 — Spring 2020
 Scientist pen-pal

Texas A&M Astronomy REU Programming Workshop May 2019
 Workshop introducing REU students to programming and astronomy data
 Texas A&M University, Department of Physics & Astronomy

[Astronomy on Tap BCS](#), Bryan, TX
 Chapter co-founder, host, organizer Apr. 2018 — present
 Trivia writer Fall 2020 — Jan. 2021
 Panel: *Answering YOUR Burning Questions* 13 Dec. 2018, 11 Sep. 2019, 15 Jan. 2020
 Talk: *Supermassive Black Holes: Galactic Monsters and their Lairs* 23 March 2022
 Talk: *From Earth to the Stars* 16 Sep. 2020
 Talk: *Chasing the Event Horizon* 17 Jul. 2019
 Talk: *Here Be ~~Dragons~~ Aliens: The Unsolved Equation* 11 Oct. 2018

[Texas A&M Physics & Engineering Festival](#) Apr. 2017, 2018, 2019, 2021
 Texas A&M University, Department of Physics & Astronomy

[Camp For All](#), Burton, TX 2017
 Astronomy Outreach

[Public Star Parties](#) Spring 2017
 Texas A&M University, Department of Physics & Astronomy

Dallas Arboretum, UT Dallas Society of Physics Students
 Earth Day Apr. 2015
 The Joy of Science Apr. 2014

UT Dallas Society of Physics Students, Secretary & Vice President Fall 2013 — Spring 2016
 The University of Texas at Dallas

[27th Texas Symposium on Relativistic Astrophysics](#), The University of Texas at Dallas
Public Q&A

Dec. 2013

Alpha Phi Omega Math & Science Camp, The University of Texas at Dallas
Astronomy lecturer

Oct. 2013