Jesse R. Feddersen, Ph.D.

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Employment History

2024 **Academic Director,** Summer Science Program.

2023 – 2024 **Instructor of Natural Science,** Clark Honors College, University of Oregon.

2023 **Associate Academic Director,** Summer Science Program.

2020 – 2023 **Assistant Lecturer,** Department of Physics and Astronomy, University of Wyoming.

2016 – 2017 **Teaching Fellow,** Yale Summer Program in Astrophysics.

2013 – 2019 **Graduate Teaching and Research Fellow,** Department of Astronomy, Yale University.

2012 **Research Intern,** Space Astronomy Summer Program, Space Telescope Science Institute.

2009 – 2013 **Research Assistant,** Department of Astronomy, Indiana University.

Education

2013 – 2019 **Ph.D. in Astronomy, Yale University.**
Thesis - Stirring a Giant: Feedback in the Orion A Molecular Cloud

2009 – 2013 **B.S. in Physics and Astronomy, Indiana University**
Thesis - Spectroscopic Analysis of Hα Dots

Teaching Experience

2023 – 2024 **Instructor of Natural Science,** Clark Honors College, University of Oregon.
Advised students on honors college curriculum, served on undergraduate thesis committees, and taught the following classes to students from all majors:
HC 101H - The History and Science of Eclipses
HC 241H - Black Holes: From Science Fiction to Science Fact
HC 277H - Thesis Orientation
HC 441H - Projects in Astroimaging and Data Analysis

2023 **Associate Academic Director,** Summer Science Program.
Designed curriculum, taught lectures, supervised astrophysics research projects, and mentored teaching assistants at six-week residential intensive research program for high school students.

2020 – 2023 **Assistant Lecturer,** Department of Physics and Astronomy, University of Wyoming.
Advised students, held office hours, supervised teaching assistants, and taught the following classes:
ASTR 1050 - Survey of Astronomy
PHYS 1210 - Engineering Physics I
PHYS 1220 - Engineering Physics II
PHYS 4410 - Electricity and Magnetism I
PHYS 4840 - Mathematical and Computational Physics II
ASTR 5870 - Classic Papers of Astronomy

2016 – 2017 **Teaching Fellow,** Yale Summer Program in Astrophysics.
Led programming tutorials and observing labs for 4-week intensive research program for high school students.

Teaching Experience (continued)

2013 – 2019 **Graduate Teaching Fellow,** Department of Astronomy, Yale University.
Taught discussion sections, research labs, tutored, and graded for the following undergraduate astronomy courses:
ASTR 120 - Galaxies and the Universe
ASTR 160 - Frontiers and Controversies in Astrophysics
ASTR 170 - Introduction to Cosmology
ASTR 220 - Galaxies and Cosmology
ASTR 255 - Research Methods in Astrophysics

University Service

2024 **Faculty Member**, Clark Honors College Faculty Hiring Committee
2023 – 2024 **Faculty Member**, Clark Honors College Undergraduate Studies Committee.
Faculty Member, Clark Honors College Equity, Justice, and Inclusion Committee.
2022 – 2023 **Faculty Member**, UWyo Physics and Astronomy Undergraduate Curriculum Committee
2021 – 2023 **Faculty Advisor**, UWyo Society of Physics Students.

Public Outreach

2024 **Public Observing at Asterisk Observatory**, Terrebonne, OR
2023 **CHC Telescope Night Organizer**, Eugene, OR
Public Solar Observing Organizer, Eugene, OR
Guest Curator, University of Wyoming Art Museum, Laramie, WY
Science Fair Judge, Wyoming State Science Fair, Laramie, WY
2022 – 2023 **Sidewalk Astronomy Facilitator with Society of Physics Students**, Laramie, WY
2021 – 2023 **UWyo Public Observatory Nights Volunteer**, Laramie, WY
2022 **UW STEM Carnival Volunteer**, Laramie, WY
2021 – 2022 **Wyoming Infrared Observatory Open House Volunteer**, Jelm, WY
2019 **Truth & Beauty Podcast Host and Producer**, New Haven, CT
2014 – 2019 **Leitner Family Observatory and Planetarium Presenter**, New Haven, CT
2015 – 2016 **Yuri's Night at Yale Organizer**, New Haven, CT
2014 – 2016 **Astrobites Author and Editor**, New Haven, CT
2014 **Adler Planetarium Zooniverse Experience Designer**, Chicago, IL
2011-2013 **Sidewalk Astronomy Facilitator with IU Astronomy Club**, Bloomington, IN
2012 **Venus Transit Public Viewing Volunteer**, Bloomington, IN
Child's Elementary School Telescope Night Organizer, Bloomington, IN
2011 – 2012 **IU Physics and Astronomy Open House Volunteer**, Bloomington, IN
2011 **Astronomy with the Stars Volunteer**, Bloomington, IN

Research Publications

1 J. J. Salzer, **J. R. Feddersen**, K. Derloshon, C. Gronwall, A. Van Sistine, A. Sugden, S. Janowiecki, A. S. Hirschauer, and J. A. Kellar, "The Hα Dots Survey. II. A Second List of Faint Emission-line Objects", Astronomical Journal **160**, 242, 242 (2020).

2 **J. R. Feddersen**, H. G. Arce, S. Kong, S. Suri, Á. Sánchez-Monge, V. Ossenkopf-Okada, M. M. Dunham, F. Nakamura, Y. Shimajiri, and J. Bally, "The CARMA-NRO Orion Survey: Protostellar Outflows, Energetics, and Filamentary Alignment", Astrophysical Journal **896**, 11, 11 (2020).

3 Y. Tanabe, F. Nakamura, T. Tsukagoshi, Y. Shimajiri, S. Ishii, R. Kawabe, **J. R. Feddersen**, S. Kong, H. G. Arce, J. Bally, J. M. Carpenter, and M. Momose, "Nobeyama 45 m mapping observations toward Orion A. I. Molecular Outflows", Publications of the ASJ **71**, S8, S8 (2019).

4 S. Kong, H. G. Arce, A. I. Sargent, S. Mairs, R. S. Klessen, J. Bally, P. Padoan, R. J. Smith, M. J. Maureira, J. M. Carpenter, A. Ginsburg, A. M. Stutz, P. Goldsmith, S. Meingast, P. McGehee, Á. Sánchez-Monge, S. Suri, J. E. Pineda, J. Alves, **J. R. Feddersen**, J. Kauffmann, and P. Schilke, "The CARMA-NRO Orion Survey: Core Emergence and Kinematics in the Orion A Cloud", Astrophysical Journal **882**, 45, 45 (2019).

5 **J. R. Feddersen**, H. G. Arce, S. Kong, V. Ossenkopf-Okada, and J. M. Carpenter, "The CARMA-NRO Orion Survey: Statistical Signatures of Feedback in the Orion A Molecular Cloud", Astrophysical Journal **875**, 162, 162 (2019).

6 **J. R. Feddersen**, H. G. Arce, S. Kong, Y. Shimajiri, F. Nakamura, C. Hara, S. Ishii, K. Sasaki, and R. Kawabe, "Expanding CO Shells in the Orion A Molecular Cloud", Astrophysical Journal **862**, 121, 121 (2018).

7 S. Kong, H. G. Arce, **J. R. Feddersen**, J. M. Carpenter, F. Nakamura, Y. Shimajiri, A. Isella, V. Ossenkopf-Okada, A. I. Sargent, Á. Sánchez-Monge, S. T. Suri, J. Kauffmann, T. Pillai, J. E. Pineda, J. Koda, J. Bally, D. C. Lis, P. Padoan, R. Klessen, S. Mairs, A. Goodman, P. Goldsmith, P. McGehee, P. Schilke, P. J. Teuben, M. J. Maureira, C. Hara, A. Ginsburg, B. Burkhart, R. J. Smith, A. Schmiedeke, J. L. Pineda, S. Ishii, K. Sasaki, R. Kawabe, Y. Urasawa, S. Oyamada, and Y. Tanabe, "The CARMA-NRO Orion Survey", Astrophysical Journal Supplement **236**, 25, 25 (2018).

8 M. A. de los Reyes, C. Ly, J. C. Lee, S. Salim, M. S. Peeples, I. Momcheva, **J. Feddersen**, D. A. Dale, M. Ouchi, Y. Ono, and R. Finn, "The Relationship between Stellar Mass, Gas Metallicity, and Star Formation Rate for Hα-Selected Galaxies at z $\approx$ 0.8 from the NewHα Survey", Astronomical Journal **149**, 79, 79 (2015).

Popular Science Writing and Communication

Massive Science Articles	`https://massivesci.com/people/jesse-feddersen/`
Astrobites Articles	`https://astrobites.org/author/jfeddersen/`
Truth & Beauty Podcast	`https://jessefeddersen.com/podcast`

Technical Skills

Programming Languages	Python, IDL, Fortran, HTML/CSS, SQL, LaTeX
Astronomical Software	CASA, IRAF, MIRIAD, SAOImage DS9
General Software	Microsoft Office, iWork, GarageBand, Audacity, iMovie, Adobe Photoshop
Classroom Technology	Canvas, PollEverywhere

Awards and Honors

2021 **Promoting Intellectual Engagement in the First Year**, University of Wyoming.

2013 **Phi Beta Kappa**

2009 **Cox Research Scholarship**, Indiana University.

National Merit Finalist

References

Dr. Jinke Tang
Professor of Physics and Astronomy
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Dr. Héctor Arce
Professor of Astronomy
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Dr. Louise Edwards
Associate Professor of Physics
California Polytechnic State University
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Dr. Adam Myers
Professor of Physics and Astronomy
University of Wyoming
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Dr. Michael Faison
Lecturer of Astronomy & Planetarium Director
Yale University
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Dr. Michael Hannawald
Assistant Professor of Physics and Chemistry
University of Hawaii - Kauai Community College
mwh@hawaii.edu