Xinting Yu

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Current Position

University of Texas at San Antonio **San Antonio, TX, USA**
Assistant Professor, Department of Physics and Astronomy *2023–present*
Affiliated Faculty, Center for Advanced Measurements in Extreme Environments *2023–present*

Education

Johns Hopkins University **Baltimore, MD, USA**
PhD in Planetary Science *2014–2019*

University of Science and Technology of China **Hefei, Anhui, China**
BS in Space Physics with honors *2010–2014*

Research Experience

University of Texas at San Antonio **San Antonio, TX**
Assistant Professor of the Department of Physics and Astronomy *2023–present*
Lead of the Planetary Material CHaractErization Facility (PMCHEF) for physical property characterization of planetary materials, exoplanet atmosphere evolution and chemistry, planet formation and grain physics

University of California Santa Cruz **Santa Cruz, CA**
51 Pegasi b Postdoctoral Fellow (*Supervisor: Xi Zhang, Jonathan Fortney*) *2019–2022*
Laboratory characterization of planetary materials, modeling cloud-haze interactions and cloud formation on Titan and exoplanets, photochemical modeling in sub-Neptune atmospheres

Johns Hopkins University **Baltimore, MD**
Graduate Research Assistant (*Advisor: Sarah Hörst*) *2014–2019*
Laboratory production and characterization of Titan aerosol analogs ("tholins") and the effect on sediment transport and dune formation on Titan

NASA Ames Research Center **Mountain View, CA**
Visiting Student (*Collaborators: Nathan Bridges, Devon Burr, James Smith*) *2015 & 2016 Summer*
Sediment transport on Titan using the Titan Wind Tunnel

Key Laboratory of Solar Activity, National Astronomical Observatories **Beijing, China**
Undergraduate Research Assistant (*Advisor: Jun Zhang*) *2013–2014*
Investigation of cyclones in the quiet Sun using SDO/AIA and HMI data

Honors and Awards

- NASA Planetary Science Early Career Award (ECA), 2023-2028

- Outstanding mentorship of 2 UCSC undergraduate students, Chancellor's Undergraduate Research Awards (2 out of 15 awardees at UCSC), 2022
- UCSC Graduate Division Outstanding Postdoctoral Scholar Award, 2022
- 51 Pegasi b Postdoctoral Fellowship, Heising-Simons Foundation, 2019–2022
- Stephen E. Dwornik Award at the 49th Lunar and Planetary Science Conference – Best Graduate Oral Presentation, 2018
- JHU EPS Journal Club Long Presentation Award ($2,000), 2018
- Johns Hopkins University 2018-19 Technology Fellowship ($5,000)
- Johns Hopkins University 2018-19 Dean's Teaching Fellow ($11,500)
- Johns Hopkins University Shark Tank Education Innovation Competition ($3,000), Winner, 2016
- Johns Hopkins University Owen Scholars Award ($6,000/yr, 3yrs), 2014
- University of Science and Technology of China (USTC), Outstanding Bachelor Thesis, 2014
- USTC, Outstanding Award in Undergraduate Research Program, 2013

Invited Seminars and Colloquia

- University of Toronto, Department of Astronomy and Astrophysics Seminar *Feb 2025*
- Texas A&M University, Department of Geology & Geophysics seminar series *Nov 2024*
- Southwest Reserch Institute, San Antonio, Division 15 Seminar *Oct 2024*
- Georgia Institute of Technology, Planetary & Astrobiology seminar *Sept 2024*
- Brown University, DEEPS seminar *May 2024*
- Caltech, GPS Division Seminar *Feb 2024*
- University of Texas Institute for Geophysics (UTIG) seminar series *Sept 2023*
- Rocky World Discussions, Monthly Virtual Meeting Series *Apr 2023*
- University of Texas San Antonio, Graduate Seminar in Geology *Mar 2023*
- University of Texas San Antonio, Physics and Astronomy Seminar *Feb 2023*
- Caltech, Division of Geological and Planetary Sciences, Yuk Lunch Seminar *Dec 2022*
- Network for Ocean Worlds, NOW Lecture Series *Dec 2022*
- MIT, Department of Earth, Atmospheric and Planetary Sciences, DLS seminar *Nov 2022*
- Jet Propulsion Laboratory, Planetary Science Seminars *Sep 2022*
- Columbia University, Department of Astronomy and Astrophysics *Mar 2022*
- University of Wisconsin Madison, Department of Astronomy *Mar 2022*
- Rice University, Department of Earth, Environmental, and Planetary Sciences *Feb 2022*
- Pennsylvania State University, Department of Astronomy and Astrophysics *Feb 2022*
- University of Texas San Antonio, Department of Physics and Astronomy *Jan 2022*
- University of Arizona, Lunar and Planetary Laboratory Colloquium *Nov 2021*
- NASA Goddard Research Center, Exoplanet seminar series *July 2021*
- Ohio State University, Exoplanet talk series *July 2021*

○ NASA Ames Research Center, Astrophysics Branch *March 2020*
○ University of California Berkeley, Astronomy, CIPS seminar *Feb 2020*
○ University of California Santa Cruz, Earth and Planetary Sciences, WES seminar *Feb 2020*
○ University of Central Florida, Florida Space Institute *Feb 2020*
○ University of California Santa Cruz, Physics, Condensed Matter seminar *Jan 2020*
○ University of California Santa Cruz, Earth and Planetary Sciences, IGPP seminar *Feb 2019*

Teaching and Mentoring Experience

Instructor

University of Texas at San Antonio — San Antonio, TX
AST.4953/PHY.7903 Planetary Exploration: Techniques and Data Analysis — *Spring 2025*
PHYS.3343 Physics Research Laboratory — *Spring 2024*
AST.1033.002 Exploration of the Solar System — *Fall 2023, 2024*
Johns Hopkins University (Dean's Teaching Fellowship) — Baltimore, MD
AS.270.328 Planetary Exploration: Techniques and Data Analysis (New Course) — *Fall 2018*

Guest Lecturer

Johns Hopkins University — Baltimore, MD
AS.270.114 Guided Tour of the Planets (2 lectures) — *Spring 2019*
AS.270.335 Planets, Life and the Universe (1 lecture) — *Fall 2018*
AS.270.114 Guided Tour of the Planets (1 lecture) — *Spring 2018*
AS.270.410 Planetary Surface Processes (1 lecture) — *Fall 2017*
AS.270.366 Spacecraft Instrumentation Project (1 lecture) — *Spring 2017*
AS.270.114 Guided Tour of the Planets (1 lecture) — *Spring 2017*
AS.270.114 Guided Tour of the Planets (1 lecture) — *Spring 2016*

Teaching Assistant

Johns Hopkins University — Baltimore, MD
AS.270.114 Guided Tour of the Planets — *Spring 2019*
AS.270.114 Guided Tour of the Planets — *Spring 2018*
AS.270.335 Planets, Life and the Universe — *Fall 2017*
AS.270.114 Guided Tour of the Planets — *Spring 2017*
AS.270.103 Introduction to Global Environmental Change — *Fall 2016*
AS.270.114 Guided Tour of the Planets — *Spring 2016*

Teaching Grants

Johns Hopkins University — Baltimore, MD
Dean's Teaching Fellowship: new designed course AS.270.328 Planetary Exploration — *Fall 2018*
Restructure AS.270.114 Guided Tour, Technology fellowship — *Spring 2019*
Restructure AS.270.114 Guided Tour, Shark Tank Education Innovation Competition — *Winter 2017*

Mentored Students

University of Texas at San Antonio (current group members, 2023–present) — San Antonio, TX

- **Adis Husić** (*2nd year PhD Student, Physics*): Characterization of Titan haze analogs using a new experimental setup.
- **Cindy Luu** (*2nd year PhD Student, Physics*): Understanding the nature of sub-Neptunes through geochemistry.
- **Eric Austin** (*1st year PhD Student, Physics*): Characterizing the physical properties of interstellar organics to understand planet formation and icy body thermal evolution.
- **Ricardo Vega** (*Senior, Physics*): Comparative study of the mechanical properties of organics on Titan.
- **Reggie Delaney** (*Senior, Physics*): Building a vacuum furnace system for exoplanet/Venus research.
- **Phillip Doubleday** (*Senior, Physics*): 3D printing of asteroid shape models.

Postdocs

University of Texas at San Antonio (current group members, 2024–present) San Antonio, TX

- **Dr. Jose Raul Montes Bojorquez** (*2024-present*): Characterizing the optical properties of Titan and exoplanet haze analogs.
- **Dr. Sara Port** (*2024-present*): Mineral-gas interactions in warm exoplanet atmospheres.

University of Texas at San Antonio (former group members, 2023–2024) San Antonio, TX

- **Mary Kelly** (*UTSA undergrad, Physics*): Archiving the optical constants of gas tholins.
- **Allen (Boshu) Qiao** (*UTSA undergrad '24, Physics*): Expanding and archiving the Titan material database with the NASA Planetary Data System (PDS).
- **Beauxregard Martinez** (*UTSA undergrad, Environmental Science*): Flocculation of organic sediments in methane rivers on Titan.
- **Charles Cordts** (*UTSA undergrad '24, BS Physics*): Flocculation of organic sediments in methane rivers on Titan. Charles is now a grad student at the University of Akron.
- **Eric Austin** (*UTSA undergrad '24, BS Physics*): Comparison study on the surface energies of Titan haze analogs. Eric is now a grad student at UTSA.
- **Emran Ismail** (*UTSA undergrad '24, BS Physics*): Trends in exoplanet haziness with JWST.

University of California Santa Cruz (former group members, 2019–2023) Santa Cruz, CA

- **Ziyu Huang** (*University of Southern California PhD '23, Aerospace Engineering*): Identify surfaces on cool exoplanets. Ziyu is currently a postdoc at Georgia Tech.
- **Erik White** (*UCSC undergrad '23, BS EPS*): Comparison study on the surface energies of Titan haze analogs & Flocculation experiments on Titan. Erik is now a geologist.
- **Jolie Wolff** (*UCSC undergrad '23, BS EPS*): Deciphering the chemical composition of ice clouds on Titan.
- **Vanessa Mendoza** (*UCSC undergrad '23, BS EPS*): Haze evolution on eccentric exoplanets. Vanessa is currently a grad student at Western Washington University.
- **Jialin Li** (*UCSC undergrad '22, BS Physics, Chancellor's Undergraduate Research Award*): Comparison study on the surface energies of Titan haze analogs & Understanding the effect of surfaces on the compositions of exoplanet atmospheres. Jialin is currently an NSF Graduate Research Fellow at the University of Arizona.

- **Austin Dymont** (*UCSC undergrad '22, BS physics, Chancellor's Undergraduate Research Award*): Trends in haziness of temperate exoplanets & Decipher the nature of super-puffy exoplanets. Austin is currently a grad student at the University of Chicago.
- **Ethan Romo** (*UCSC undergrad '22, BS EPS*): Comparison study on the mechanical properties of Titan haze analogs. Ethan is currently a technician at Compatible Electronics.
- **Julia Garver** (*UCSC undergrad '21, BS astrophysics*): Cloud formation on Titan. Julia is currently an aerospace engineer.
- **Taylor Duncan** (*UCSC undergrad '21, BS EPS*): Outgassing experiments of carbonaceous chondrites. Taylor is currently a grad student at the University of Western Ontario.
- **Yue (Yuna) Yu** (*UCSC undergrad '20, BS EPS*): Aerosol-Cloud-Lake Interactions on Titan. Yuna is currently a grad student at the University of Geneva.
- **Kyle Kim** (*UCSC undergrad '19, BS EPS*): Outgassing experiments of carbonaceous chondrites. Kyle is currently a grad student at the University of Maryland.
- **Connor Dickinson** (*UCSC undergrad, astrophysics*): Interactive website for trends in exoplanet haziness.
- **Abigale Hawthorn** (*UCSC undergrad, astrophysics*): Interactive website for material properties of organics liquids, ices, and solids on Titan.
- **Amaan Khwaja** and **Yash Rajpal** (high-school students): Interactive website for trends in the haziness of cool exoplanets, **Link**.
- **Francesca Tom** (high-school student): Cloud formation on Titan.

Funded Proposals

PI on NASA Planetary Data Archiving, Restoration and Tools (PDART) Program, *2024-2027*
Expanding Titan's Material Property Database: Mechanical Properties, 3 yrs, $841,345

Co-I on UTSA Transdisciplinary Teams Program (T2) seed grant, *2024-2025*
Enabling studies of Titan's atmosphere with in-situ laser absorption spectroscopy, 1 yr, $5,000 to Co-I Yu

Co-I on NASA Solar System Workings (SSW) Proposal, *2024-2027*
The Fate of Hydrolyzed and Non-Hydrolyzed Sediments on Titan, 3 yrs, $142,011 to Co-I Yu

PI, Heising-Simons Foundation, *2023-2025*
Experiment-Driven Modeling of Haze Formation on Cool Exoplanets, 2 yrs, $87,000

PI on NASA Habitable Worlds (HW) Program, *2023-2026*
How to Identify Exoplanet Surfaces Using Atmospheric Trace Species in Super-Earth Atmospheres, 3 yrs, $449,329

PI, Heising-Simons Foundation, *2023*
The Texas Area Planetary Science (TAPS) Conference, $86,317

PI on NASA Planetary Science Early Career Award (ECA), *2023-2028*
The Next-Generation Laboratory Experiments on Planetary Materials, 5 yrs, $199,972

PI on NASA Cassini Data Analysis Program (CDAP), *2022-2026*
Comparing the Material Properties of Titan Aerosols and Laboratory-Made Aerosol Analogs, 3 yrs, $647,607

Co-I on NASA Cassini Data Analysis Program (CDAP) Proposal, *2021-2025*
Understanding Surface Material on Titan, 3 yrs, $131,646 to Co-I Yu

Databases

- **A material property database for Titan-relevant organic liquids, ices, and solids**: titanmaterials.sites.ucsc.edu
- **A hazy exoplanet property database:** exoplanethaziness.shinyapps.io/hazyweb

Publications

*: Mentored Undergraduate Student, △: Mentored Graduate Student and Postdoc
†: Corresponding Author

In Progress

△Eric C. Austin, †**Xinting Yu**, *Ricardo Vega, △Adis Husić, Dionysis I. Foustoukos, Kelly E. Miller, Conel M. O'D. Alexander, Alan Whittington, Chris R. Glein, Ngoc Truong, "Characterizing the Mechanical Properties of Insoluble Organic Matter: Implications for Planet Formation and Icy-Body Thermal Evolution", *in prep*.

△Adis Husić, †**Xinting Yu**, Ryan C. Blase, Edward L. Patrick, *Beauxregard Martinez, *Ricardo Vega, *Erik White, Sam Birch, and Charles Cordts, "Flocculation as a Mechanism for Dune Sand Creation on Titan", *in prep*.

*Ricardo Vega, †**Xinting Yu**, △Adis Husić, △Jose Raul Montes-Bojorquez, △Eric C. Austin, Cara Pesciotta, Ella Sciamma-O'Brien, Joshua A. Sebree, △Christopher R. Bond, Sarah M. Hörst, and Farid Salama, and Patricia McGuiggan, "A Cross-Laboratory Comparison Study of Titan's Haze Analogs: Mechanical Properties I", *in prep*.

△Christopher R. Bond, †**Xinting Yu**, Chao He, Cara Pesciotta, Ella Sciamma-O'Brien, Joshua A. Sebree, Howard E. Katz, Patricia McGuiggan, △Adis Husić, △Eric C. Austin, Sarah M. Hörst, Farid Salama, and Ralph Lorenz, "A Cross-Laboratory Comparison Study of Titan's Haze Analogs: Complex Dielectric Constants", *in prep*.

△Adis Husić, †**Xinting Yu**, Ryan C. Blase, Edward L. Patrick, △Eric C. Austin, and Alan Whittington, "Wide-ranging and Comprehensive Measurements of the Physical Properties of a New Tholin Generation Setup", *in prep*.

With Co-Authors

*Eric Austin, †**Xinting Yu**, Erik White, Chao He, Cara Pesciotta, Ella Sciamma-O'Brien, Joshua A. Sebree, △Adis Husić, △Christopher R. Bond, Sarah M. Hörst, Farid Salama, and Patricia McGuiggan, "A Cross-Laboratory Comparison Study of Titan's Haze Analogs: Surface Energy II", *with coauthors*.

Refereed Publications

25 Total: 11 First Author, 15 Corresponding Author - Yu Group
[25]: Christopher R. Glein, **Xinting Yu**, △Cindy N. Luu, "Temperate Sub-Neptunes as Gas Dwarfs: An Attempt to Unite Top-Down and Bottom-Up Geochemical Models of TOI-270 d", *In Revision*.

[24]: Jin S. Zhang, Wen-Yi Zhou, Tuan H. Vu, Robert Hodyss, **Xinting Yu**, "Single-crystal Elasticity of α-hydroquinone - An Analog for Organic Planetary Materials ", *ACS Earth and Space Chemistry*, **9(1)**, 1-7, https://doi.org/10.1021/acsearthspacechem.4c00322, 2025.

[23]: $^{\triangle}$Cindy N. Luu, †**Xinting Yu**, Christopher R. Glein, Hamish Innes, Artyom Aguichine, Joshua Krissansen-Totton, Julianne Moses, Shang-Min Tsai, Xi Zhang, Ngoc Truong, Jonathan J. Fortney, "Volatile-rich Sub-Neptunes as Hydrothermal Worlds: The Case of K2-18 b", *The Astrophysical Journal Letters*, **977(2)**, L51, https://doi.org/10.3847/2041-8213/ad9eb1, 2024.

[22]: $^{\triangle}$Ziyu Huang, †**Xinting Yu**, Shang-Min Tsai, Julianne Moses, Kazumasa Ohno, Joshua Krissansen-Totton, Xi Zhang, Jonathan Fortney, "Probing Cold-to-Temperate Exoplanetary Atmospheres: The Role of Water Condensation on Surface Identification with JWST", *The Astrophysical Journal*, **975(1)**, 146, https://doi.org/10.3847/1538-4357/ad76ac, 2024.

[21]: †**Xinting Yu**, *Yue Yu, *Julia Garver, Xi Zhang, Patricia McGuiggan, "The Fate of Simple Organics on Titan's Surface: A Theoretical Perspective", *Geophysical Research Letters*, **51**, e2023GL106156, https://doi.org/10.1029/2023GL106156, 2024. (***AGU press release***, ***CNN article***).

[20]: †**Xinting Yu**, *Yue Yu, *Julia Garver, *Jialin Li, *Abigale Hawthorn, Ella Sciamma-O'Brien, Xi Zhang, and Erika Barth, "Material Properties of Organic Liquids, Ices, and Hazes on Titan", *The Astrophysical Journal Supplement Series*, **266**, 30, https://doi.org/10.3847/1538-4365/acc6cf, 2023.

[19]: Shannon MacKenzie, Kirby Runyon, **Xinting Yu**, Jasper Kok, Claire Newman, Ralph Lorenz, and Francesco Comola, "Sediment-Moving Winds and Abrasion on Titan: Implications for Yardangs", *Icarus*, **394**, 115433, https://doi.org/10.1016/j.icarus.2023.115433, 2023.

[18]: *Austin H. Dymont, †**Xinting Yu**, Kazumasa Ohno, Xi Zhang, Jonathan Fortney, Daniel Thorngren, and *Connor Dickinson, "Cleaning our Hazy Lenses: Statistical Trends in Transmission Spectra of Warm Exoplanets," *The Astrophysical Journal*, **937**, 2, https://doi.org/10.3847/1538-4357/ac7f40, 2022.

[17]: James Mang, Peter Gao, Callie E. Hood, Jonathan J. Fortney, Natasha Batalha, **Xinting Yu**, and Imke de Pater, "Microphysics of Water Clouds in the Atmospheres of Y Dwarfs and Temperate Giant Planets," *The Astrophysical Journal*, **927**, 184, https://doi.org/10.3847/1538-4357/ac51d3, 2022.

[16]: Francesco Comola, Jasper F. Kok, Juan M. Lora, K. Cohanim, **Xinting Yu**, Chao He, Patricia McGuiggan, Sarah M. Hörst, and Francis Turney, "Titan's prevailing circulation might drive highly intermittent, yet significant sediment transport", *Geophysical Research Letters*, **49**, 7, e2022GL097913, https://doi.org/10.1029/2022GL097913, 2022.

[15]: *Jialin Li, †**Xinting Yu**, Ella Sciamma-O'Brien, Chao He, Joshua Sebree, Farid Salama, Sarah M. Hörst, and Xi Zhang, "A Cross-Laboratory Comparison Study of Titan's Haze Analogs: Surface Energy", *The Planetary Science Journal*, **3**, 2, https://doi.org/10.3847/PSJ/ac3d27, 2022.

[14]: †**Xinting Yu**, Julianne I. Moses, Jonathan J. Fortney, and Xi Zhang, "How to Identify Exoplanet Surfaces Using Atmospheric Trace Species in Hydrogen-dominated Atmospheres", *The Astrophysical Journal*, **914**, 36, https://doi.org/10.3847/1538-4357/abfdc7, 2021. (**Article on *Forbes***).

[13]: †**Xinting Yu**, Chao He, Xi Zhang, Sarah M. Hörst, *Austin H. Dymont, Patricia McGuiggan, Julianne I. Moses, Nikole K. Lewis, Jonathan J. Fortney, Peter Gao, Eliza M.-R. Kempton, Sarah

Moran, Caroline V. Morley, Diana Powell, Jeff A. Valenti, and Véronique Vuitton, "Haze Evolution in Temperate Exoplanet Atmospheres Through Surface Energies Measurements", *Nature Astronomy*, **5**(8), 822-831, https://doi.org/10.1038/s41550-021-01375-3, 2021.

[12]: †**Xinting Yu**, Sarah M. Hörst, Chao He, Patricia McGuiggan, Kai Kristiansen, and Xi Zhang, "Surface Energy of the Titan Aerosol Analog 'Tholin'", *The Astrophysical Journal*, **905**(2), 88, https://doi.org/10.3847/1538-4357/abc55d, 2020.

[11]: Ellen Czaplinski, **Xinting Yu**, Katherine Dzurilla, Vincent Chevrier, "Experimental Investigation of the Acetylene-Benzene Co-crystal on Titan", *The Planetary Science Journal*, **1**(3), 76, https://doi.org/10.3847/PSJ/abbf57, 2020.

[10]: Chao He, Sarah M. Hörst, Nikole K. Lewis, **Xinting Yu**, Julianne I. Moses, Patricia McGuiggan, Mark S. Marley, Eliza M.-R. Kempton, Caroline V. Morley, and Véronique Vuitton, "Haze Formation in Warm H2-rich Exoplanet Atmospheres", *The Planetary Science Journal*, **1**(2), 51, https://doi.org/10.3847/PSJ/abb1a4, 2020.

[9]: Chao He, Sarah M. Hörst, Nikole K. Lewis, **Xinting Yu**, Julianne I. Moses, Patricia McGuiggan, Mark S. Marley, Eliza M.-R. Kempton, Sarah E. Moran, Caroline V. Morley, and Véronique Vuitton, "Sulfur Promotes Haze Formation in Warm Exoplanet Atmospheres", *Nature Astronomy*, **4**(10), 986-993, https://doi.org/10.1038/s41550-020-1072-9, 2020.

[8]: †**Xinting Yu**, Sarah M. Hörst, Chao He, and Patricia McGuiggan, "Single Particle Triboelectrification of Titan Sand Analogs", *Earth and Planetary Science Letters*, **530**, 115996, https://doi.org/10.1016/j.epsl.2019.115996, 2020.

[7]: †**Xinting Yu**, Sarah M. Hörst, Chao He, Bryan Crawford, and Patricia McGuiggan, "Where does Titan Sand Come From: Insight from Mechanical Properties of Titan Organic Analogs", *Journal of Geophysical Research - Planets*, **123**, 2310, https://doi.org/10.1029/2018JE005651, 2018. (**Featured article in *JGR-planets* and article on *Universe Today***).

[6]: Chao He, Sarah M. Hörst, Nikole K. Lewis, **Xinting Yu**, Julianne I. Moses, Eliza M.-R. Kempton, Mark S. Marley, Patricia McGuiggan, Caroline V. Morley, Jeff A. Valenti, and Véronique Vuitton, "Photochemical Haze Formation in the Atmospheres of Super-Earths and Mini-Neptunes", *The Astronomical Journal*, **156**, 1, https://doi.org/10.3847/1538-3881/aac883, 2018.

[5]: Chao He, Sarah M. Hörst, Nikole K. Lewis, **Xinting Yu**, Julianne I. Moses, Eliza M.-R. Kempton, Patricia McGuiggan, Caroline V. Morley, Jeff A. Valenti, and Véronique Vuitton, "Laboratory Simulations on Haze Formation in Cool Exoplanet Atmospheres: Particle Color and Size Distribution", *The Astrophysical Journal Letters*, **865**(1), L3, https://doi.org/10.3847/2041-8213/aab42b, 2018.

[4]: †**Xinting Yu**, Sarah M. Hörst, Chao He, Patricia McGuiggan, and Nathan T. Bridges, "Direct Measurement of Interparticle Forces of Titan Aerosol Analogs ("Tholin") Using Atomic Force Microscopy", *Journal of Geophysical Research - Planets*, **122**(12), 2610, doi:10.1002/2017JE005437, 2017.

[3]: †**Xinting Yu**, Sarah M. Hörst, Chao He, Nathan T. Bridges, Devon M. Burr, Joshua A. Sebree, and James K. Smith, "The Effect of Adsorbed Liquid and Material Density on Saltation Threshold: Insight from Laboratory and Wind Tunnel Experiments", *Icarus*, **297**, 97, doi:10.1016/j.icarus.2017.06.034, 2017.

[2]: †**Xin-Ting Yu**, Jun Zhang, Ting Li, and Shu-Hong Yang, "Case Studies of EUV Cyclones and Their Associated Magnetic Fields", *Research in Astronomy and Astrophysics*, **15**, 1525, doi.org/10.1088/1674-4527/15/9/009, 2015.

[1]: †**Xinting Yu**, Jun Zhang, Ting Li, Yuzong Zhang, and Shuhong Yang, "Homologous Cyclones in the Quiet Sun", *The Astrophysical Journal Letters*, **782**(2), L15, doi.org/10.1088/2041-8205/782/2/L15, 2014.

Selected Conference Proceedings

*: Mentored Undergraduate Student, △: Mentored Graduate Student and Postdoc

[22]: **Yu X.**, The Next-Generation Laboratory Experiments on Planetary Materials, *Asia Oceania Geosciences Society Annual Meeting*, 2025, **Invited Kamide Lecture**.

[21]: **Yu X.**, Aerosols, hazes, and clouds, *Exoclimes VII*, 2025, **Invited Review Talk**.

[20]: △Port S., **Yu X.**, et al., Impact of Hydrocarbon Moisture on the Adhesion of Titan's Organic Sands: Implications for Sediment Transport and Dune Formation, *LPSC*, 2025.

[19]: *Vega R., **Yu X.**, et al., A Cross-Laboratory Comparison of Titan Haze Analogs: Mechanical Properties, *LPSC*, 2025.

[18]: △Austin E., **Yu X.**, et al., Characterizing the Mechanical Properties of Insoluble Organic Matter: Implications for Planet Formation and Icy-Body Thermal Evolution, *LPSC*, 2025.

[17]: △Husić A., **Yu X.**, et al., Flocculation as a Mechanism for Dune Sand Creation on Titan, *LPSC*, 2025.

[16]: **Yu X.**, Exploring the Nature of Sub-Neptunes: From Theory to the Lab, *Exoplanets in Our Backyard III*, 2024, **Invited Talk**.

[15]: **Yu X.**, The Next-Generation Laboratory Experiments in Planetary Materials, *DPS*, 2024, **Invited Plenary Talk**.

[14]: △Luu C., **Yu X.**, et al., Geochemistry of a Potential Supercritical Ocean on K2-18 b, *AbSciCon*, 2024.

[13]: **Yu X.**, The Next-Generation Laboratory Experiments in Planetary Materials, *LPSC*, 2024, **Invited Plenary Talk**.

[12]: △Husić A., **Yu X.**, et al., Characterization of Tholins Produced by a New Experimental Set Up, *LPSC*, 2024.

[11]: *Austin E., **Yu X.**, et al., A Cross-Laboratory Comparison Study of Titan Haze Analogs: Surface Energy, *DPS-EPSC*, 2023.

[10]: **Yu X.**, Clouds and Hazes in Exoplanet Atmospheres in the JWST era, *Center for Computational Astrophysics Exoplanet Atmospheres Symposium*, 2022, **Invited Talk**.

[9]: **Yu X.**, The Next-Generation Laboratory Experiments on Planetary Materials, *XXXIst General Assembly of international Astronomical Union (IAUGA)*, 2022, **Invited Talk**.

[8]: **Yu X.**, The Next-Generation Laboratory Experiments on Planetary Materials, *Bay Area Planetary Science Meeting*, 2022, **Invited Talk**.

[7]: *Dymont A.H., **Yu X.**, Ohno K., Zhang X., and Fortney J. J., Cleaning our Hazy Lenses: Statistical Trends in Transmission Spectra of Warm Exoplanets, *Exoplanet IV*, 2022.

[6]: **Yu X.**, *Yu Y., *Garver J., *Li J., Zhang X., A Database for the Material Properties of Titan's Organic Liquids, Ices, and Hazes, *LPSC*, 2022.

[5]: **Yu X.**, Laboratory Experiments on Understanding Atmospheric, Surface, and Interior Processes on Titan, *Titan Through Time V*, 2021, ***Invited***.

[4]: *Garver, J., *Yu Y., **Yu X.**, and Zhang X., Cloud formation on Titan, *237th AAS meeting*, 2021.

[3]: *Li J., **Yu X.**, Sciamma-O'Brien E., He C., Sebree J.A., Salama F., Hörst S.M., & Zhang X., Measurement and Implications of Surface Energies of Titan's Haze Analogs "Tholins", *AGU Falling Meeting*, 2020.

[2]: **Yu X.**, Hörst S.M., He C., McGuiggan P., and Zhang X., Integrating Materials Science Techniques into the Study of Planetary Hazes, *AGU Falling Meeting*, 2019, **Invited Talk**.

[1]: **Yu X.**, Hörst S.M., He C., Crawford B., and McGuiggan P., Where Does Titan Sand Come From: Insight from Mechanical Properties of Titan Organic Analogs, *LPSC*, 1786, 2018, **Stephen E. Dwornik Award–Best Graduate Oral Presentation.**

Skills

Language: Chinese (native), English (fluent), Japanese and Spanish (conversational)

Programming: Python, Matlab, IDL, C++, Fortran, Mathematica

Computer: Windows, Linux, Mac OS, MS Office, LaTeX

Laboratory Instruments: RGA-MS, SEM/EDS, AFM, XRD, XRR, Nanoindenter, Pycnometer, TGA/DSC

Laboratory Skills: Material Characterization with Environmental Control, Vacuum Techniques, Photochemistry Synthesis, Low/High Temperature and Low-Pressure Gas Reactions

Scholarships and Travel Grants

- UTSA Faculty Travel Support Program, 2022, 2023, 2024
- 50th DPS Hartmann Travel Grant, 2018
- Titan Surface Meeting travel grant, 2018
- Johns Hopkins University J. Brien Key Fund, 2017
- Women in Astronomy IV travel grant, 2017
- USTC Outstanding Student Scholarship (Grade 1), 2013
- USTC Outstanding Student Scholarship (Grade 2), 2012
- USTC Outstanding Student Scholarship (Grade 3), 2011

Additional Training

- NCFDD Faculty Success Program *Summer 2023*
- Alan Alda Center for Science Communications Workshop *Summer 2023*
- 51 Pegasi b Fellows Mentoring Workshop *Spring 2022*
- EON-ELSI Winter School in Earth–Life Science *Winter 2018*
- JHU Teaching Academy–Teaching Institute Certificate Program *Summer 2016*

Outreach and Service

- Alamo STEM Ecosystem Workshop Volunteer *Spring 2025*
- UTSA Day Physics and Astronomy Representative *Spring 2025*
- Girl's Empowerment Summit Mentor Luncheon Mentor *Spring 2024*
- Astronomy on Tap (AoT) SATX speaker *Spring 2024*
- Professional Advancement Workshop Series (PAWS) panelist *Fall 2023*
- KLRN STEM & Energy Career Day *Spring 2023*
- UCSC EPS diversity committee member *2021-2023*
- UCSC Institute for Geophysics and Planetary Physics seminar series co-organizer *2020-2023*
- UCSC Planetary Lunch seminar series co-organizer *2021-2023*
- Outreach talk at BASIS Independent Silicon Valley *Spring 2022*
- UCSC MINT Program mentor *Fall 2021*
- UCSC Science Internship Program, mentor of three high school students *Summer 2021*
- UCSC 2nd Annual Undergrad-Grad STEM Mixer *Jan 2020*
- 52th, 50th, 49th LPSC microblogger *Spring 2021, 2019, 2018*
- 15th Annual Physics Fair organizer, Johns Hopkins University *Spring 2018*

Professional Affiliations

- Division for Planetary Sciences of the American Astronomical Society
- American Geophysical Union
- American Astronomical Society

Professional Activities

- Network for Ocean Worlds Steering Committee, 2020–current
- External reviewer for NASA Solar System Workings, Habitable Worlds, Cassini Data Analysis, Exoplanets Research, and Interdisciplinary Consortia for Astrobiology Research programs
- Review panel member for NASA FINESST program, NSF Astronomy & Astrophysics program, NASA Planetary Science Early Career Award, NASA PSD ISFM Midway Review, Heising-Simons Foundation's 51 Pegasi b Postdoc Fellowship
- Reviewer for Icarus, ApJ, ApJL, A&A, GRL, PSS, PSJ, ACS Earth and Space Chemistry, Nature Communications, Science Advances
- LPSC Dwornik best student presentation award judge
- AGU OSPA best student presentation award judge

Leadership and Service

- 3rd Texas Area Planetary Science (TAPS) Meeting Series, Organizer, SOC and LOC chair, 2025
- Scientific organizing committee for the DPS meeting, 2024

- 2nd Texas Area Planetary Science (TAPS) Meeting Series, Organizer, SOC and LOC chair, 2024
- Scientific organizing committee for the DPS-EPSC meeting, 2023
- Inaugural Texas Area Planetary Science (TAPS) Meeting Series, Organizer, SOC and LOC chair, 2023
- UTSA Physics and Astronomy Departmental Happy Hour Organizer, 2023-present
- Scientific organizing committee for the cloud-zwei-conference, 2023
- Scientific organizing committee for the cloud-nine-conference, 2021
- Scientific organizing committee for the Bay Area Planetary Science Meeting, 2022

University of Texas at San Antonio

- Department of Physics and Astronomy Admissions Committee
- Department of Physics and Astronomy Qualifying Exam Member at UTSA: Sean Dillon (Fall 2023), Erica Dykes (Fall 2023), Jared Schroeder (Fall 2023)
- Department of Physics and Astronomy Masters Supervisory Committee at UTSA: Elena Dolgas (Summer 2023)
- Department of Earth and Planetary Sciences Masters Supervisory Committee at UTSA: Ashley Emerson (Summer 2023), Adriana Ariza Pardo (Summer 2024)
- Department of Earth and Planetary Sciences Planetary Systems Modeling Position Search Committee, 2024

Volunteer Experiences

- ACE certified personal trainer, 2019–2021
- Animal Interpretation and Animal Handling Volunteer in the Maryland Zoo in Baltimore, 2017–2019
- Yelp Elite Member, 2017–present
- Education Volunteer in the Maryland Zoo in Baltimore, 2016–2019
- Volunteer Translator (adding English subtitles and translate English to Chinese) for Educational Videos, Youzimu Subtitle Team, 2016–2017
- Completed Full Marathon in 2016 Chicago, 2015 Honolulu, 2015 Philadelphia, 2015 Marine Corps, 2014 Baltimore, 2014 Honolulu, 2014 Xiamen, 2013 Beijing, 2013 Shanghai
- Completing Half Marathon in 2012 Beijing, 2012 Yangzhou, 2013 Yangzhou, 2014 Kangbao, 2015 Xiamen, 2017 New York, 2024 San Antonio