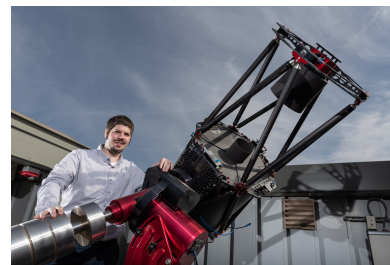


Billy Quarles

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Education

- 2012 **PhD in Physics & Applied Physics**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington
- 2008 **MS in Physics**, STEPHEN F. AUSTIN STATE UNIVERSITY, Physics, Nacogdoches
- 2006 **BS in Physics & Astronomy**, TEXAS CHRISTIAN UNIVERSITY, Physics & Astronomy, Fort Worth

PhD Dissertation

Title *Selected studies of celestial dynamics and habitability of extrasolar planetary systems*
Supervisors Zdzislaw Musielak & Manfred Cuntz

Research Interests

Theory Gravitational Dynamics, Planetary Spin Dynamics, Planet Formation, Planetary Habitability
Observation Binary Stars, Exoplanets in Binary Stars, Multiple Planet Systems

Teaching Experience

- 8/24 – present **Assistant Professor**, TEXAS A&M UNIVERSITY-COMMERCE, Commerce, TX
 - ASTR1304: Solar System Astronomy
 - ASTR120: Life in the Universe
- 8/21 – 5/24 **Assistant Professor**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
 - ASTR1000: Introduction to the Universe
 - ASTR1010K: Astronomy of the Solar System
 - ASTR1020K: Stellar and Galactic Astronomy
 - PHYS2700: Modern Physics
 - ASTR3800: Astrobiology
 - PHYS3820: Computational Physics
 - ASTR4410: Modern Astrophysics
 - ASTR3220: Cosmology
- 8/20 **Guest Lecturer**, GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA
 - Mathematical Physics
- 8/15 – 5/16 **Visiting Assistant Professor**, UNIVERSITY OF NEBRASKA AT KEARNEY, Kearney, NE
 - Introductory Physics I & II for Health Science majors
 - Conceptual Physical Science
 - Introductory Astronomy
- 9/12 – 12/12 **Astronomy Lab Supervisor**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
- 1/09 – 8/12 **Graduate Teaching Assistant**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
- 8/10 – 12/10 **Astronomy Lecturer**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX

8/06 – 5/08 **Graduate Teaching Assistant**, STEPHEN F. AUSTIN STATE UNIVERSITY, Nacogdoches, TX

Research Experience

8/18 – 8/21 **Research Scientist**, GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA
8/16 – 8/18 **Postdoctoral Research Associate**, UNIVERSITY OF OKLAHOMA, Norman, OK
5/16 – 8/16 **Postdoctoral Research Associate**, UNIVERSITY OF IDAHO, Moscow, ID
9/15 – 8/16 **Technical Consultant**, SAN DIEGO STATE UNIVERSITY, San Diego, CA
1/13 – 8/15 **Postdoctoral Research Fellow**, NASA AMES RESEARCH CENTER, Moffett Field, CA

Student Research

Undergraduate Students (9)

8/23 – **Hector Prieto**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
present
8/23 – **Ian McLean**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
present
1/23 – **Jasmine Freeman**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
present
1/23 – **Jordan Hewins**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
present
6/22 – 5/23 **Ralph Avery**, VALDOSTA STATE UNIVERSITY, Valdosta, GA
5/21 – 8/21 **Oshina Jagtap[†]**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
8/18 – 8/21 **Karthik Yadavalli[†]**, GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA
8/18 – 5/19 **Ziqian Hong[†]**, GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA
8/17 – 5/18 **Ethan White**, UNIVERSITY OF OKLAHOMA, Norman, OK

Graduate Students (6)

1/22 – **Shaan Patel**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
present
8/18 – 5/22 **Steven Kreyche[†]** (Ph.D. awarded in 2022), UNIVERSITY OF IDAHO, Moscow, ID
8/17 – 12/21 **Marialis Rosario-Franco[†]** (Ph.D. awarded in 2021), UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
8/16 – 5/19 **Matt Clement** (Ph.D. awarded in 2019), UNIVERSITY OF OKLAHOMA, Norman, OK
8/17 – 5/18 **Sarah Moorman[†]**, UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX
8/12 – 12/14 **Suman Satyal[†]** (Ph.D. awarded in 2014), UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX

[†]Mentoring resulted in a publication and is denoted by color in my publication list.

Media Coverage

- Jul 2023 Kurzgesagt shorts – [How Many Moons Could Earth Handle?](#)
- Aug 2022 Newscientist.com – [Physicists work out how many moons Earth could have](#)
- Aug 2022 Universetoday.com – [What is the Maximum Number of Moons that Earth Could Have?](#)
- Jan 2022 Scientificamerican.com – [Astronomers Have Found Another Possible ‘Exomoon’ beyond Our Solar System](#)
- Jun 2020 theScienceBreaker.org – [Climatic Changes for Earths in Sun-like Stellar Binaries](#)
- Nov 2019 Phys.org – [Exoplanet axis study boosts hopes of complex life, just not next door](#)
- Jul 2019 Cosmos Magazine – [Planets in multiple-star systems may be habitable](#)
- May 2019 Sky and Telescope – [Third planet found orbiting binary star system](#)
- Jun 2017 ScienceDaily.com – [Composition of Earth-size planets in TRAPPIST-1 system](#)
- Jun 2016 Astrobiology Magazine – [New planet largest discovered orbits two suns](#)
- Apr 2014 National Geographic – [Kepler Telescope Discovers Most Earth-Like Planet Yet](#)
- Jan 2012 Universe Today – [Goldilocks moons](#)
- Jan 2012 National Geographic – ["Tatooine" Planet With Two Suns Could Host Habitable Moon?](#)
- Jan 2012 Space.com (NBC News) – [Alien Earths could have 2 suns like Star Wars Tatooine](#)

Institutional Service

Valdosta State

- **Departmental Committees:** Physics Departmental Action Team (DAT), Astronomy & Physics Advisors, Engineering Technology Faculty Search, Department Head Search
- **College Committee:** Data Science Curriculum
- **University Committees:** Undergraduate Research Council, Technology, Student Affairs

Georgia Tech

- **Cosmic Coffee** (journal club) organizer (2018-2021) in the Center for Relativistic Astrophysics at Georgia Tech

Review Experience

- Journals Nature Astronomy, Astrophysical/Astronomical Journal, Astronomy & Astrophysics, Icarus, Monthly Notices of the Royal Astronomical Society, Advances in Space Research, Physical Letters A, Advances in Astronomy
- Grants NASA Emerging Worlds, NASA TESS Guest Observer Program, K2 Guest Observer Program, NASA Earth and Space Science Fellowship Program, NASA Postdoctoral Program

Research Collaborations

Kepler Working Groups

2013 – 2016 Eclipsing Binary, Transit Timing Variations & Multiple-Body, Threshold Crossing Event Review Team (TCERT)

TESS Working Groups

2016 – Circumbinary Planets, Transit Timing Variations & Multiple-Body
present

Books and Monographs Published

Z. Musielak and B. Quarles. Three Body Dynamics and Its Applications to Exoplanets. SpringerBriefs in Astronomy, July 2017. [Google Scholar](#) ISBN 9783319582269

Open Educational Resources (OERs)

- Computational Physics – saturnaxis.github.io/CompPhysics
- Modern Astrophysics – saturnaxis.github.io/ModernAstro
- Astrobiology – saturnaxis.github.io/Astrobio
- Modern Physics – saturnaxis.github.io/ModernPhysics
- Cosmology – saturnaxis.github.io/Cosmology
- Introduction to Research – saturnaxis.github.io/exoplanet-binary

Research Grants and Awards

- CY 22-24 CoI, [NASA TESS GO Cycle 4](#), Discovering Circumbinary Planets With TESS, \$70,000 (including student support)
- CY 22-24 Collaborator, [JWST GO Cycle 1](#), Searching Our Closest Stellar Neighbor for Planets and Zodiacal Emission
- FY 20-22 CoI, [NASA Astrophysics Theory Program](#), Debris Disk Morphology due to Stellar Encounters, \$523,145
- FY 19-20 CoI, [NASA Habitable Worlds](#), Tidal Obliquity Variations of Potentially Habitable Planets, \$211,098
- FY 19-20 CoI, [NASA Sellers Exoplanet Environments Collaboration](#), Where to Search for Habitable Worlds, \$500,000
- CY 19-20 Collaborator, [NASA TESS GI](#), Detection and Prioritization of Warm Jupiters
- CY 16-18 Collaborator, [NASA SSW](#), Comprehensive Analyses of Comet Siding Spring, Before, During and After Its Mars Encounter
- CY 16-18 CoI, [NASA XRP](#), Warm, Large Exoplanets
- FY 14-16 CoI, [NASA Astrobiology: Exobiology and Evolutionary Biology](#), Obliquity Stability of Potentially Habitable Worlds

Peer-Reviewed Publications (54)

NASA ADS Library (~2180 citations; **H-index**¹ = 21)

Google Scholar Library (~2800 citations; **H-index** = 23)

ArXiv Library

1. D. Kipping, A. Teachey, D. Yahalomi, B. Cassesse, [B. Quarles](#) et al. A Reply to: Large Exomoons unlikely around Kepler-1625 b and Kepler-1708 b. *NatAs*. **Under Review** [NASA ADS](#): 2024arXiv240110333K
2. N. Kaib, A. Parsells, S. Grimm, [B. Quarles](#), M. Clement More realistic planetesimal masses alter Kuiper belt formation models and add stochasticity. *Icarus*. **Dec 2023** [NASA ADS](#): 2024Icar..41516057K
3. S. Adelbert, A. Penzlin, C. Schaefer, W. Kley, [B. Quarles](#), R. Sfair Stability of coorbital planets around binaries. *A&A*. **Dec 2023** [NASA ADS](#): 2023A%26A...680A..29A
4. M. El Moutamid, K. Stevenson, [B. Quarles](#), N. Lewis, et al. Mass derivation of planets K2-21b and K2-21c from transit timing variations. *MNRAS*. **Apr 2023** [NASA ADS](#): 2023MNRAS.520.4226E
5. J. Jackson, R. Dawson, [B. Quarles](#), and J. Dong. Statistical Analysis of the Dearth of Super-eccentric Jupiters in the Kepler Sample. *AJ*. **Mar 2023** [NASA ADS](#): 2023AJ....165...82J
6. S. Satyal, [B. Quarles](#), and [M. Rosario-Franco](#). Moon packing around an Earth-mass planet. *MNRAS*. **Oct 2022** [NASA ADS](#): 2022MNRAS.516...39S
7. M. Clement, E. Quintana, and [B. Quarles](#). Habitable Planet Formation around Low-mass Stars: Rapid Accretion, Rapid Debris Removal, and the Essential Contribution of External Giants. *ApJ*. **Mar 2022** [NASA ADS](#): 2022ApJ...928...91C
8. D. Kipping, S. Bryson, C. Burke, J. Christiansen, et al. including [B. Quarles](#). An exomoon survey of 70 cool giant exoplanets and the new candidate Kepler-1708 b-i. *NatAs*. **Jan 2022** [NASA ADS](#): 2022NatAs...6..367K
9. [B. Quarles](#), G. Li, and J.J. Lissauer. Milankovitch cycles for a circumstellar Earth-analogue within α Centauri-like binaries. *MNRAS*. **Jan 2022** [NASA ADS](#): 2022MNRAS.509.2736Q
10. V. Kostov, B. Powell, J. Orosz, W. Welsh, et al. including [B. Quarles](#). TIC 172900988: A Transiting Circumbinary Planet Detected in One Sector of TESS Data. *AJ*. **Dec 2021** [NASA ADS](#): 2021AJ....162..234K
11. [O. Jagtap](#), [B. Quarles](#), and M. Cuntz. Updated studies on exomoons in the HD 23079 system. *PASA*. **Nov 2021** [NASA ADS](#): 2021PASA...38...59J
12. [S. Kreyche](#), J.W. Barnes, [B. Quarles](#), and J.E Chambers. Exploring Tidal Obliquity Variations with SMERCURY-T. *PSJ*. **Oct 2021** [NASA ADS](#): 2021PSJ.....2..187K
13. [B. Quarles](#), S. Eggl, [M. Rosario-Franco](#) and G. Li. Exomoons in Systems with a Strong Perturber: Applications to α Cen AB. *AJ*. **Aug 2021** [NASA ADS](#): 2021AJ....162...58Q
14. J. Dong, C. Huang, R. Dawson, D. Foreman-Mackey, et al. including [B. Quarles](#) Warm Jupiters in TESS Full-frame Images: A Catalog and Observed Eccentricity Distribution for Year 1. *ApJS*. July 2021 [NASA ADS](#): 2021ApJS..255....6D
15. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Application of Orbital Stability and Tidal Migration Constraints for Exomoon Candidates. *ApJL*. Oct 2020 [NASA ADS](#): 2020ApJ...902L..20Q

¹H-index is a measure of research output and impact within Astronomy. It indicates the number of publications that have H citations.

16. V. Kostov, W. Welsh, N. Haghighipour, [B. Quarles](#), et al. Multiple Transits during a Single Conjunction: Identifying Transiting Circumbinary Planetary Candidates from TESS. *AJ*. October 2020 [NASA ADS: 2020AJ....160..174K](#)
17. [S. K. Yadavalli](#), [B. Quarles](#), G. Li, and N. Haghighipour. Effects of flux variation on the surface temperatures of Earth-analog circumbinary planets. *MNRAS*. September 2020 [NASA ADS: 2020MNRAS.499.1506Y](#)
18. R. Martin, J. J. Lissauer, and [B. Quarles](#). Evolution of α Centauri B's protoplanetary disc. *AJ*. June 2020 [NASA ADS: 2020MNRAS.496.2436M](#)
19. [M. Rosario-Franco](#), [B. Quarles](#), M. Cuntz, and Z. Musielak. Orbital Stability of Exomoons and Submoons with Applications to Kepler 1625b-I. *AJ*. June 2020 [NASA ADS: 2020AJ....159..260R](#)
20. V. Kostov, J. Orosz, A. Feinstein, W. Welsh, et al. including [B. Quarles](#). TOI-1338: TESS' First Transiting Circumbinary Planet. *ApJ*. June 2020 [NASA ADS: 2020AJ....159..253K](#)
21. [S. Kreyche](#), J. Barnes, [B. Quarles](#), J. J. Lissauer, J. Chambers, and M. Hedman. Orbital eccentricity influences the obliquity stability of retrograde-rotating planets. *Planetary Science Journal*. June 2020 [NASA ADS: 2020PSJ.....1....8K](#)
22. Q. Socia, W. Welsh, J. Orosz, W. D. Cochran, et al. including [B. Quarles](#). KOI-3152 b: A Kepler Transiting Circumbinary Planet in a Grazing Eclipsing Binary. *AJ*. March 2020 [NASA ADS: 2020AJ....159...94S](#)
23. [B. Quarles](#), G. Li, V. Kostov, and N. Haghighipour. Orbital Stability of Circumstellar Planets in Binary Systems. *AJ*. March 2020 [NASA ADS: 2020AJ....159...80Q](#)
24. C. Beichman, M. Ygouf, J. Sayson, Y. Yung, et al. including [B. Quarles](#). Searching for Planets Orbiting α Cen A with the James Webb Space Telescope. *PASP*. January 2020 [NASA ADS: 2020PASP..132a5002B](#)
25. [B. Quarles](#), J. W. Barnes, J. J. Lissauer, and J. Chambers. Obliquity Evolution of the Potentially Habitable Exoplanet Kepler-62F. *Astrobiology*. January 2020 [NASA ADS: 2020AsBio..20...73Q](#)
26. [B. Quarles](#), G. Li, and J. J. Lissauer. Obliquity Evolution of Circumstellar Planets in Sun-like Stellar Binaries. *ApJ*. November 2019 [NASA ADS: 2019ApJ....886..56Q](#)
27. J. A. Orosz, W. F. Welsh, N. Haghighipour, [B. Quarles](#) and the *Kepler CBP Working Group*. The Detection and Characterization of a Third Planet in the Kepler-47 Circumbinary System. *AJ*, May 2019. [NASA ADS: 2019AJ....157..174O](#)
28. [Z. Hong](#), [B. Quarles](#), G. Li, and J. Orosz. Could There Be an Undetected Inner Planet Near the Stability Limit in Kepler-1647?. *AJ*. [NASA ADS: 2019AJ....158....8H](#)
29. [B. Quarles](#), and N. Kaib. Instabilities in the Early Solar System due to a Self-gravitating Disk. *AJ*. [NASA ADS: 2019AJ....157...67Q](#)
30. [S. Moorman](#), [B. Quarles](#), Zh. Wang, and M. Cuntz. The Habitable Zone of Kepler-16: Impact of Binarity and Climate Models. *International Journal of Astrobiology*, February 2019. [NASA ADS: 2019IJAsB..18...79M](#)
31. [B. Quarles](#), S. Satyal, V. Kostov, N. Kaib, and N. Haghighipour. Stability Limits of Circumbinary Planets: Is There a Pile-up in the Kepler CBPs?. *ApJ*, April 2018. [NASA ADS: 2018ApJ...856..150Q](#)
32. [B. Quarles](#) and J. J. Lissauer. Long-Term Stability of Tightly Packed Multi-Planet Systems in Prograde, Coplanar, Circumstellar Orbits within the alpha Centauri AB System. *AJ*, March 2018. [NASA ADS: 2018AJ....155..130Q](#)

33. B. Quarles, J. J. Lissauer, and N. Kaib. Long-Term Stability of Planets in the α Centauri System, II: Forced Eccentricities. *AJ*, February 2018. [NASA ADS: 2018AJ....155...64Q](#)
34. B. Quarles, E. Quintana, E. Lopez, J. Schlieder, and T. Barclay. Plausible Compositions of the Seven TRAPPIST-1 Planets Using Long-term Dynamical Simulations. *ApJL*, June 2017. [NASA ADS: 2017ApJ...842L...5Q](#)
35. J. Barnes, B. Quarles, J. J. Lissauer, J. E. Chambers, and M. Hedman. Obliquity Variations of an Early Venus. *Astrobiology*, July 2016. [NASA ADS: 2016AsBio..16..487B](#)
36. V. Kostov, W. F. Welsh, J. A. Orosz, L. R. Doyle, et al. including B. Quarles. KOI-2939b: the largest and longest-period Kepler transiting circumbinary planet *ApJ*, August 2016. [NASA ADS: 2016ApJ...827...86K](#).
37. B. Quarles and J. J. Lissauer. Long Term Stability of planets in the α Centauri system. *AJ*, May 2016. [NASA ADS: 2016AJ....151..111Q](#).
38. J. Coughlin, F. Mullally, S. Thompson, J. F. Rowe, et al. including B. Quarles. Planetary Candidates Observed By *Kepler*: VII. The First Fully Automated Catalog Based on the Entire 48 Month *Kepler* Dataset (Q1-Q17 DR24). *ApJS*, May 2016. [NASA ADS: 2016ApJS..224...12C](#).
39. B. Kirk, K. Conroy, A. Prša, M. Abdul-Masih, et al. including B. Quarles. Kepler Eclipsing Binary Stars. VII. The Catalog of Eclipsing Binaries Found in the Entire Kepler Data-Set. *AJ*, March 2016. [NASA ADS: 2016AJ....151...68K](#).
40. W. F. Welsh, J. A. Orosz, D. R. Short, N. Haghighipour, et al. including B. Quarles. KIC 9632895 - The 10th Kepler Transiting Circumbinary Planet. *ApJ*, August 2015. [NASA ADS: 2015ApJ...809...26W](#).
41. F. Mullally, J. L. Coughlin, S. E Thompson, J. Rowe, et al. including B. Quarles. Planetary Candidates Observed by *Kepler* VI: Planet Sample from Q1-16 (46 Months). *ApJS*, April 2015. [NASA ADS: 2015ApJS..217...31M](#).
42. J. F., Rowe, J. L. Coughlin, V. Antoci, T. Barclay, et al. including B. Quarles. Planetary Candidates Observed by *Kepler*. V. The Q1-Q12 Planet Candidate Catalogue. *ApJS*, March 2015. [NASA ADS: 2015ApJS..217...31M](#).
43. B. Quarles and J. J. Lissauer Dynamical Evolution of the Earth-Moon Progenitors – Whence Theia?. *Icarus*, March 2015 [NASA ADS: 2015Icar..248..318Q](#).
44. K. E. Conroy, A. Prša, K. G. Stassun, S. Bloemen, et al. including B. Quarles. Kepler Eclipsing Binary Stars. V. Identification of 31 Eclipsing Binaries in the K2 Engineering Data-set. *PASP*, October 2014, [NASA ADS: 2014PASP..126..914C](#).
45. S. Satyal, T. C. Hinse, B. Quarles, and J. P. Noyola. Chaotic dynamics of the planet in HD 196885 AB. *MNRAS*, September 2014. [NASA ADS: 2014MNRAS.443.1310S](#)
46. Z. E. Musielak and B. Quarles. The three-body problem. *Reports on Progress in Physics*, June 2014. [NASA ADS: 2014RPPh...77f5901M](#)
47. E. V. Quintana, T. Barclay, S. N. Raymond, J. F. Rowe, et al. including B. Quarles. An Earth-Sized Planet in the Habitable Zone of a Cool Star. *Science*, April 2014. [NASA ADS: 2014Sci...344..277Q](#)
48. S. Satyal, B. Quarles, and T. C. Hinse. Application of chaos indicators in the study of dynamics of S-type extrasolar planets in stellar binaries. *MNRAS*, August 2013, 1211.3956. [NASA ADS: 2013MNRAS.433.2215S](#)

49. M. Cuntz, [B. Quarles](#), J. Eberle, and A. Shukayr. On the Possibility of Habitable Moons in the System of HD 23079: Results from Orbital Stability Studies. *PASA*, May 2013. [NASA ADS: 2013PASA...30...33C](#)
50. [B. Quarles](#), Z. E. Musielak, and M. Cuntz. Study of resonances for the restricted 3-body problem. *Astronomische Nachrichten*, August 2012. [NASA ADS: 2012AN....333..551Q](#)
51. [B. Quarles](#), Z. E. Musielak, and M. Cuntz. Habitability of Earth-mass Planets and Moons in the Kepler-16 System. *ApJ*, May 2012. [NASA ADS: 2012ApJ...750...14Q](#)
52. [B. Quarles](#), M. Cuntz, and Z. E. Musielak. The stability of the suggested planet in the ν Octantis system: a numerical and statistical study. *MNRAS*, April 2012. [NASA ADS: 2012MNRAS.421.2930Q](#)
53. J. Eberle, M. Cuntz, [B. Quarles](#), and Z. E. Musielak. Case studies of habitable Trojan planets in the system of HD 23079. *International Journal of Astrobiology*, October 2011. [NASA ADS: 2011IJAsB..10..325E](#)
54. [B. Quarles](#), J. Eberle, Z. E. Musielak, and M. Cuntz. The instability transition for the restricted 3-body problem. *A&A*, September 2011. [NASA ADS: 2011A%26A...533A...2Q](#)

Invited Talks (16)

1. [B. Quarles](#). What if the Earth had no Tilt?. Valdosta State University Planetarium, Mar 2024.
2. [B. Quarles](#). Habitability in Alpha Centauri AB: an astrodynamics perspective. The Alpha Centauri System: Towards New Worlds, Nice Fr (remote), June 2023.
3. [B. Quarles](#). Exoplanets Orbiting Binary Stars. Valdosta State University Planetarium, Mar 2023.
4. [B. Quarles](#). Dangers for Earthlike Planets in Binary Systems. Carnegie Institution for Science: DTM Colloquium, January 2020.
5. [B. Quarles](#). Potential for Exoplanetary Neighbors in Alpha Centauri. Texas Section of the American Physical Society, March 2019.
6. [B. Quarles](#). Extrasolar Planets with 2 Suns: Paradise Lost?. Tulsa City-County Library Idea Box Series, April 2018.
7. [B. Quarles](#). Living on the Edge: Stability Limits of Circumbinary Planets. Georgia Tech CRA Seminar, March 2018.
8. [B. Quarles](#). Exoplanets in Binary Star Systems: Friends or foes?. Louisiana School for Math, Science, and the Arts, Natchitoches, January 2018.
9. [B. Quarles](#). Archimedes and the Giant Planet Instability. Laboratoire d'Astrophysique de Bordeaux Guest Colloquium, June 2017.
10. [B. Quarles](#). An Extremely Cold Case: Formation of the Earth's Moon. University of Oklahoma Department of Physics & Astronomy Guest Colloquium, October 2015.
11. [B. Quarles](#). Vacations on an Earthlike planet: Just add water?. UC-Berkeley Center for Integrative Planetary Science Colloquium, April 2015.
12. [B. Quarles](#). Early Solar System Evolution and Consequences for Habitability. Baylor-CASPER Seminar Series, March 2015.

13. [B. Quarles](#). Early Solar System Evolution and Consequences for Habitability. Texas Christian University Seminar Series, March 2015.
14. [B. Quarles](#), and J. J. Lissauer. Theia's date with destiny: possible conditions leading to a Giant Impact. SETI Institute Seminar Series, [YouTube video](#) January 2015.
15. [B. Quarles](#). Theia's Provenance: Regional Source of Earth's Late Impactor, University of Texas at Arlington Department of Physics Colloquium, January 2014.
16. [B. Quarles](#). Chaos in Extrasolar Planets, Texas Christian University Department of Physics & Astronomy Colloquium, February 2011.

Conference Talks (24)

1. [B. Quarles](#). Mass derivation of planets K2-21b and K2-21c from transit timing variations In *Georgia Academy of Sciences*, Section IV: Physics, Mathematics, Computer Science and Technology, [YouTube video](#), Mar 2024.
2. [B. Quarles](#), S. Satyal, and M. Rosario-Franco. Moon Packing around an Earth-mass Planet. In *Georgia Academy of Sciences*, Section IV: Physics, Mathematics, Computer Science and Technology, [YouTube video](#) Mar 2023.
3. [B. Quarles](#), G. Li, and J. J. Lissauer. Milankovitch Cycles for Earth-analogs in Binary Star Systems. In *AGU/Astrobiology Science Conference*, AGU/Astrobiology Science Conference, May 2022.
4. [B. Quarles](#), G. Li, and J. J. Lissauer. Milankovitch Cycles for Potential Earth-analogs in Alpha Centauri. In *Georgia Academy of Sciences*, Section IV: Physics, Mathematics, Computer Science and Technology, Mar 2022.
5. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Validation of Exomoon Candidates Using Orbital Stability and Tidal Constraints. In *American Astronomical Society Meeting Abstracts #237*, volume 53 of *American Astronomical Society Meeting Abstracts*, page #239.04, January 2021.
6. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Validation of Exomoon Candidates Using Orbital Stability and Tidal Constraints. (Virtual Meeting) ExomoonFest, November 2020.
7. [B. Quarles](#), G. Li, V. Kostov, and N. Haghighipour. Orbital Stability of Circumstellar Earth-like planets in Binary Systems. In *AAS/Division of Dynamical Astronomy (Virtual Meeting)*, AAS/Division of Dynamical Astronomy Meeting, August 2020.
8. [B. Quarles](#). Obliquity Variations of Terrestrial Planets in α Centauri Chesapeake Bay Exoplanet Meeting, January 2020.
9. [B. Quarles](#), G. Li, and J. J. Lissauer. Obliquity Variations and Habitability in Alpha Centauri AB. In *AGU/Astrobiology Science Conference*, AGU/Astrobiology Science Conference, June 2019.
10. [B. Quarles](#), G. Li, and J. J. Lissauer. Obliquity Evolution of Earthlike planets in α Centauri AB. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, June 2019.
11. [B. Quarles](#). The Habitability of Exoplanets Around Sunlike Stars. Georgia Tech Exploration and Origins Colloquium, March 2019.

12. [B. Quarles](#), J. Barnes, J. J. Lissauer, and J. E. Chambers. Obliquity Variations of a Potentially Habitable Kepler-62f. In *AAS/Division of Planetary Sciences Meeting*, AAS/Division of Planetary Sciences Meeting, October 2018.
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