Yuxi (Lucy) Lu

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EDUCATION

- Graduate student. Columbia University, New York, NY. **Aug 2019 - present**
- Bachelor of Science, Honors Degree. University of Maryland, College Park, MD. **Aug 2014 - May 2018**
- **Jan 2019**, online Machine Learning course by Stanford University, passed with 95.7%

SUMMARY OF SKILLS

- Computer Programing: C++, C, Linux, Matlab, Python (Pandas, scikit-learn), Jupyter notebook, Octave, supervised/unsupervised machine learning, Git (github: https://github.com/lyx12311)
- Spoken/Written Languages: English (fluent), Mandarin Chinese (fluent)

FELLOWSHIPS

- 2021 - present RGGS Graduate Student Fellowship
- 2019 - 2021 Columbia University Graduate Fellowship

HONORS AND AWARDS

- 2018 High honors degree in Astronomy
- 2018 High honors degree in Physics
- 2015 - 2018 Office of Multi-ethnic Student Education (OMSE) Academy of Academic Excellence Awards
- 2014 Fall - 2018 Spring Semester Academic Honors (Dean's List)
- 2018 UMD Physics Undergraduate Research Showcase outstanding talk
- 2017 US-Korean Conference Best Poster in Physics Section
- 2016/2017 Angelo Bardasis Memorial Scholarship

TRAVEL GRANTS

- 2019 Raynor L. Duncombe Student Research Prize
- 2016 Future of Physics Days Travel Grant

RESEARCH EXPERIENCE

PhD candidate, Advisor: Ruth Angus, Department of Astronomy, American Museum of Natural History, Central Park West, Manhattan, New York, **Sep. 2021 - present**

Graduate Student, Advisor: Melissa Ness, Department of Astronomy, Columbia University, Manhattan, New York, **Sep. 2020 - Aug. 2021**

Graduate Student, Advisor: Ruth Angus, Department of Astronomy, American Museum of Natural History, Central Park West, Manhattan, New York, **Sep. 2019 - Aug 2020**

Visiting Faculty Specialist, Advisor: Prof. Douglas Hamilton, Department of Astronomy, University of Maryland, College Park, Maryland, **Aug. 2018 - Jul. 2019**

Undergraduate Student, Advisor: Prof. Eun-Suk Seo, Cosmic Ray Energetics and Mass Lab, University of Maryland, College Park, Maryland, **Feb. 2015 - Jun. 2018**

Undergraduate Student, Advisor: Prof. Derek Richardson, Granular Dynamics Group, University of Maryland, College Park, Maryland, **Jun. 2016 - Jun. 2018**

TEACHING EXPERIENCE

Head Teaching Assistant, Department of Astronomy, Columbia University in the City of New York, New York, New York, **Aug 2021 - June 2022**

Teaching Assistant, Department of Astronomy, Columbia University in the City of New York, New York, New York, **Aug 2019 - June 2021**

Teaching Assistant, Department of Astronomy & Department of Physics, University of Maryland, College Park, Maryland, **May 2016 - May 2018**

Tutor, Department of Astronomy, College Park, Maryland, **Feb. 2017 - May 2018**

LEADERSHIP AND SOCIAL ACTIVITY

SGMA committee member, American Astronomical Society, **Aug 2021 - present**

Student Leader, Committee for a Constructive Tomorrow, University of Maryland, College Park, Maryland, **Mar. 2016 - May 2018**

Undergraduate Representative, Department of Astronomy Equality Committee, University of Maryland, College Park, Maryland, **Feb. 2017 - May 2017**

Co-president, Society of Asian Scientists & Engineers, University of Maryland, College Park, Maryland, **Mar. 2015 - Dec. 2016**

PATENTS

1. Pengjie Sun, **Yuxi Lu**, *Adefovir dipivoxil maleate and preparation method and composition thereof.* CN20131220097. 2013.

INVITED TALKS

1. **Yuxi Lu**. *Properties of the high- and low-alpha disk & the age-metallicity relation in the Galaxy.* Galactic archeology group meeting at MPIA. Online. April 2022.
2. **Yuxi Lu**. *Properties of the high- and low-alpha disk & the age-metallicity relation in the Galaxy.* GASP group meeting at ANU. Online. March 2022.
3. **Yuxi Lu**. *Gyro-kinematic ages for around 30,000 Kepler stars.* FIFTY YEARS OF THE SKUMANICH RELATIONS. Boulder, Colorado. March 2022.
4. **Yuxi Lu**. *Astraea: A Random Forest Algorithm to Predict Long Rotation Periods of TESS Stars with 27-Day Light Curves*. TESS science collaboration meeting. Online. 2020.
5. **Yuxi Lu**, Douglas Hamilton, Thomas Rimlinger, Joe Hahn. *Simulating Saturn's A ring edge with a single chain of gravitationally-interacting particles*. Cornell University. Planetary Lunch. 2019.
6. **Yuxi Lu**, Ronald Ballouz, Derek Richardson. *Exploring Shear Free Ringlet Formation with Direct Simulations of Saturn's A and B Rings*. UMD Physics Undergraduate Research Showcase. University of Maryland College Park. 2018.
7. **Yuxi Lu**, Eric Yates, Alyssa Mills, Lindsay Poleto. *Analyzing Surface Temperatures and Strengths of Flares of dMe and dM Stars in iPTF Data*. University of Maryland Observatory. Open House. 2016.

PUBLICATIONS

First author peer-reviewed publications:

1. **Yuxi Lu**, et al., *Does the period gap close up at the fully convective limit?* In prep.
2. **Yuxi Lu**, Tobias Buck, and Melissa K. Ness. *Exploring the reliability and limitations of inferring birth radii with NIHAO-UHD simulations*. In prep.
3. **Yuxi Lu**, Tobias Buck, and Melissa K. Ness. *Turning Points in the Age-Metallicity Relations — Collective Effects from Radial Migration and Major Mergers*. MNRAS. tmp. doi:10.1093/mnras/stac780.
4. **Yuxi Lu** et al., *Universal properties of the high- and low-a disk: small intrinsic abundance scatter and migrating stars*. MNRAS. 512, 2890. doi:10.1093/mnras/stac610.
5. **Yuxi Lu**. et al., *Gyro-Kinematic Ages for around 30,000 Kepler Stars*. published in A. J., 161:189. 2021.
6. **Yuxi Lu**. et al., *Astraea: A Random Forest Algorithm to Predict Long Rotation Periods of TESS Stars with 27-Day Light Curves*. published in A.J., 160:168. 2020.
7. **Yuxi Lu**, Ronald Ballouz, and Derek Richardson. *Exploring Shear Free Ringlet Formation with Direct Simulations of Saturn's A and B Rings*. published in A. J., 156:129. 2018.

Other peer-reviewed publications:

1. David, Trevor J. et al. *Small Planet Sizes Evolve Over Billions of Years*. ArXiv, 2020
2. Kirsten Blancato, Melissa Ness, Daniel Huber, **Yuxi Lu**, Ruth Angus. *Data-driven derivation of stellar properties from photometric time series data using convolutional neural networks*. ArXiv, 2020.
3. Ruth Angus. et. al. *Exploring the evolution of stellar rotation using Galactic kinematics*. ArXiv, 2020.
4. S. C. Kang. et. al. *On-orbit performance of the top and bottom counting detectors for the ISS-CREAM experiment on the international space station*. Advances in Space Research, Volume 64, Issue 12, p. 2564-2569. 2019.
5. Jik K. Lee. et. al. *The ISS-CREAM Silicon Charge Detector for identification of the charge of cosmic rays up to $Z = 26$: Design, fabrication and ground-test performance*. Astroparticle Physics, Volume 112, p. 8-15. 2019.

Published Conference Proceeding:

1. Nicolas Picot-Clémente, Eun-Suk Seo, Andrew Strong, **Yuxi Lu**. *Study of Cosmic-Ray Light Nuclei Transport with GALPROP* . International Cosmic Ray Conference, Netherlands, July, 2015. PoS(ICRC2015)555.

Outreach talks:

1. **Yuxi Lu** et al. *Do robots dream of light curves? Using machine learning to measure rotation periods of stars*. Columbia Astronomy outreach. NYC. March, 2020.
8. **Yuxi Lu** et al. *Do robots dream of light curves? Using machine learning to measure rotation periods of stars*. AMNH high school class. NYC. March, 2020.