Jinmi Yoon, Ph.D. Curriculum Vitae

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Department of Physics
University of Notre Dame, IN USA

Education

2002 – 2008 **Ph.D. Physics**
Department of Physics and Astronomy, Stony Brook University, NY, USA
Dissertation title: *Rotation and Evolution of A and F stars*
Advisor: Prof. Deane M. Peterson

1999 – 2002 **M.Sc. Physics**
School of Physics, Seoul National University, Seoul, Republic of Korea

1995 – 1999 **B.Sc. Physics**
Department of Physics, University of Seoul, Seoul, Republic of Korea (*graduated an honor equivalent to summa cum laude*)

Appointments

2017 – Present **JINA-CEE Postdoctoral Fellow**
Department of Physics and Joint Institutes for Nuclear Astrophysics-Center for the evolution of the elements, University of Notre Dame, IN USA

2015 – 2017 **Postdoctoral Research Associate**
Department of Physics and Joint Institutes for Nuclear Astrophysics-Center for the evolution of the elements, University of Notre Dame, IN USA

2001–2002 **Adjunct faculty (lecturer and lab instructor)**
Department of Physics, University of Seoul, Seoul, Republic of Korea

Awards/Honors/Achievements

2017–present JINA-CEE Postdoctoral Fellow, University of Notre Dame

2016–present AAS Astronomy Ambassador program cohort, Astronomical Society of the Pacific & American Astronomical Society

1999 Prize of the Dean of Liberal Arts and Science for academic excellence, University of Seoul

Graduated with honor equivalent to summa cum laude, the department of Physics, The University of Seoul

1995 – 1998 Academic excellence/top 3 highest class rank, the department of Physics, University of Seoul

Research Interests

Galactic archaeology	The nature of the first-generations of stars by chemodynamical analysis of the most metal-poor stars, in particular, carbon-enhanced metal-poor (CEMP) stars in the Galactic halo and ultra-faint dwarf (UFD) galaxies
Near-field cosmology	Formation and evolution of galaxies in the early Universe
Galactic chemical evolution	Evolution of chemical elements throughout the Galactic assembly history, in particular, the early enrichment history
Nuclear astrophysics	Origin and evolution of elements, in particular first-star nucleosynthesis (quiescent stellar burning processes and neutron-capture processes such as s-process, i-process, and r-process happening during evolution of the first stars)
Stellar Astrophysics	Stellar evolution and (rapid) rotation of intermediate-mass and massive stars

Research Experience

2018–Present
Galactic chemical evolution with Dr. Benoit Côté
Simulating the chemical enrichment and stellar feedback of stellar populations, in particular the early generation of stars using the JINA-CEE NuGrid pipeline (`https://nugrid.github.io/NuPyCEE/index.html`) and comparing the theoretical chemical yields with the observational data of most metal-poor stars.

2015–Present
Galactic archaeology with Prof. Timothy C. Beers
JINA-CEE Postdoctoral Fellow (2017-present) and Postdoctoral Associate (2015-2017) at the department of Physics, University of Notre Dame
• Observations of EMP carbon stars with the Large Binocular Telescopes MODS and Gemini GMOS
• The origin of CEMP-no groups: connection to the satellite dwarf galaxies
• Galactic Chemical Evolution
• Study of first-star nucleosynthesis using CEMP Stars
• *Best and Farthest Survey* searching for ultra Metal-Poor stars in the outermost Galactic halo using both Large Binocular Telescopes, Gemini telescopes.
• Kinematics study of the Galactic halo stars.
• Study of Galactic formation and evolution via metallicity ([Fe/H]) and carbonicity ([C/Fe]) using the AEGIS program stars observed from the southern Hemisphere.
• Working on metallicity ([Fe/H]) gradient in the retrograde outer halo.

2014–2015
Galactic archaeology with Prof. Timothy C. Beers
Researcher at the department of Physics and JINA-CEE, University of Notre Dame
• Studied the association of CEMP stars without strong enhancement in heavy metals (so-called CEMP-no stars) with UFD satellite galaxies to discover new UFD galaxies.

Research Experience (continued)

2004–2008 **Stellar Rapid Rotation and Evolution of A and F stars with Prof. Deane M. Peterson**
Graduate Research Assistant at the department of Physics and Astronomy, Stony Brook University Ph. D. Dissertation titled "Rotation and Evolution of A and F stars"
• Unlike late-type stars such as Sun, early-type stars such as A and F stars rotate rapidly, faster than 50% breakup. Since rotation obscures the interpretation of the observed data, my main work was to decouple rotational effects from the physical properties such as temperature, radius, mass, and in turn age by measuring accurate and precise true rotational velocity by using both high angular resolution interferometry and high-resolution spectroscopy.

Summer 2004 **Stellar Imager Design Reference Mission with Prof. Fred Walter**
Graduate Research Assistant at the department of Physics and Astronomy, Stony Brook University
• Developed the observation scheduling code using IDL language.

Summer 2003 **Photometry Reduction with Prof. Michal Simon**
Graduate Research Assistant at the department of Physics and Astronomy, Stony Brook University

2000–2001 **High Energy Physics with Prof. Soo-Jong Rey**
Graduate Research Assistant at the School of Physics, Seoul National University
Master of Science thesis titled " Closed string dynamics in tensor fields"

Observations/Proposals

2016 – Present **Large Binocular Telescope (LBT)**
– PEPSI (as Co-I) 2017B (5 hours)
– MODS (as PI) 2016B (2.8 hours), 2017A (12 hours), 2017B (4 hours), 2018A (4 hours), 2018B (1.5 hours), 2019A (2.0 hours)

2017 – Present **Gemini Telescope**
– GMOS (as Co-I) Gemini Fast turnaround program 2017A (5.5 hours granted)
– GMOS (as PI) Gemini Fast turnaround program 2017B (6.28 hours granted)

External Funding/Travel Grants

Dec 2018 Travel grant from a conference, Stellar Archeology as a Time Machine to the First Stars, IMPU, Japan

AAS 2018B International travel grant for a travel to a conference, Stellar Archeology as a Time Machine to the First Stars, IMPU, Japan

Jul 2018 Full travel grant from a workshop, FRIB Theory Alliance r-process meeting

May 2018 Full travel grant from ENZO user tutorial workshop

Nov 2017 AAS 2017B International travel grant for a trip to a conference, A celebration of CEMP and gala of GALAH, Melbourne, Australia

Jul 2017 IAU travel grant, Rediscovering the Galaxy, IAU symposium 334 at Potsdam, Germany

External Funding/Travel Grants (continued)

- Jan 2017 — Travel grant (room and board) from Astronomical Society of Pacific & AAS to participate AAS Astronomy Ambassador Program
- Jun 2006 — Partial travel grant from Astronomical Society of New York to attend Michelson Summer Workshop in Pasadena, Caltech
- Partial Travel Grant from Michelson Summer Workshop, in Pasadena, Caltech
- Research Travel Award from Stony Brook University Graduate Student Organiztion to attend Michelson Summer Workshop, in Pasadena, Caltech
- 2000–2001 — Brain Korea 21 scholarship (tuition waived+stipend), Seoul National University
- 1996–1998 — Full Scholarship (full tuition waived for 3 years) for 3 highest class rank, Department of Physics, University of Seoul
- 1995 — Scholarship (a partial tuition waived for a semester), Department of Physics, University of Seoul

Grant Review Experience and Workshops

- Aug 2019 — Grant Writing Boot Camp held at the University of Notre Dame
- Mar 2019 — NSF Astronomy & Astrophysics Grant Review panelist
- May 2018 — Writing Successful Grants workshop held at the University of Notre Dame

Research Publications

* There is an inactive publication gap during 2011-2015 due to an extended family leave.

Journal Articles

1. **Yoon, J.**, Beers, T. C., Tian, D., & Whitten, D. D. (2019, June). Origin of the CEMP-no Group Morphology in the Milky Way. *The Astrophysical Journal*, *878*(2), 97. doi:10.3847/1538-4357/ab1ead. arXiv: 1904.02758 [astro-ph.SR]
2. **Yoon, J.**, Whitten, D. D., Beers, T. C., Lee, Y. S., & Placco, V. M. (2019). Identification of a Group III CEMP-no Star in the Dwarf Spheroidal Galaxy Canes Venatici I. *The Astrophysical Journal submitted*.
3. **Yoon, J.**, Beers, T. C., Dietz, S., Lee, Y. S., Placco, V. M., Da Costa, G., … Sharma, M. (2018, July). Galactic Archeology with the AEGIS Survey: The Evolution of Carbon and Iron in the Galactic Halo. *The Astrophysical Journal*, *861*(2), 146. doi:10.3847/1538-4357/aaccea. arXiv: 1806.04738 [astro-ph.SR]
4. Lee, Y. S., Beers, T. C., Kim, Y. K., Placco, V., **Yoon, J.**, Carollo, D., … Jung, J. (2017, February). Chemical Cartography. I. A Carbonicity Map of the Galactic Halo. *The Astrophysical Journal*, *836*(1), 91. doi:10.3847/1538-4357/836/1/91. arXiv: 1702.00195 [astro-ph.GA]
5. Placco, V. M., Frebel, A., Beers, T. C., **Yoon, J.**, Chiti, A., Heger, A., … Christlieb, N. (2016, December). Observational Constraints on First-Star Nucleosynthesis. II. Spectroscopy of an Ultra metal-poor CEMP-no Star. *The Astrophysical Journal*, *833*(1), 21. doi:10.3847/0004-637X/833/1/21. arXiv: 1609.02134 [astro-ph.SR]

6. **Yoon, J.**, Beers, T. C., Placco, V. M., Rasmussen, K. C., Carollo, D., He, S., … Zeanah, J. (2016, December). Observational Constraints on First-star Nucleosynthesis. I. Evidence for Multiple Progenitors of CEMP-No Stars. *The Astrophysical Journal*, *833*(1), 20. doi:10.3847/0004-637X/833/1/20. arXiv: 1607.06336 [astro-ph.SR]

7. Hansen, T. T., Andersen, J., Nordström, B., Beers, T. C., Placco, V. M., **Yoon, J.**, & Buchhave, L. A. (2016a, April). The role of binaries in the enrichment of the early Galactic halo. III. Carbon-enhanced metal-poor stars - CEMP-s stars. *Astronomy & Astrophysics*, *588*, A3. doi:10.1051/0004-6361/201527409. arXiv: 1601.03385 [astro-ph.SR]

8. Hansen, T. T., Andersen, J., Nordström, B., Beers, T. C., Placco, V. M., **Yoon, J.**, & Buchhave, L. A. (2016b, February). The role of binaries in the enrichment of the early Galactic halo. II. Carbon-enhanced metal-poor stars: CEMP-no stars. *Astronomy & Astrophysics*, *586*, A160. doi:10.1051/0004-6361/201527235. arXiv: 1511.08197 [astro-ph.SR]

9. Hansen, T. T., Andersen, J., Nordström, B., Beers, T. C., **Yoon, J.**, & Buchhave, L. A. (2015, November). The role of binaries in the enrichment of the early Galactic halo. I. r-process-enhanced metal-poor stars. *Astronomy & Astrophysics*, *583*, A49. doi:10.1051/0004-6361/201526812. arXiv: 1509.05344 [astro-ph.SR]

10. **Yoon, J.**, Peterson, D. M., Kurucz, R. L., & Zagarello, R. J. (2010, January). A New View of Vega's Composition, Mass, and Age. *The Astrophysical Journal*, *708*(1), 71–79. doi:10.1088/0004-637X/708/1/71

11. **Yoon, J.**, Peterson, D. M., Zagarello, R. J., Armstrong, J. T., & Pauls, T. (2008, July). The Effect of Rotation on the Spectrum of Vega. *The Astrophysical Journal*, *681*(1), 570–578. doi:10.1086/588550. arXiv: 0803.3145 [astro-ph]

12. **Yoon, J.**, Peterson, D. M., Armstrong, J. T., Clark, I., James H., Gilbreath, G. C., Pauls, T., … Zagarello, R. J. (2007, April). The Effect of Rotation on Calibrators for Ground-based Interferometry. *Publications of the Astronomical Society of the Pacific*, *119*(854), 437–443. doi:10.1086/518270

Pre-prints

1. Aprahamian, A., Surman, R., Frebel, A., McLaughlin, G. C., Arcones, A., Balantekin, A. B., … Zhu, Y.-L. (2018, September). *FRIB and the GW170817 Kilonova*. arXiv: 1809.00703 [astro-ph.HE]

Conference Proceedings

1. Dietz, S., Beers, T. C., Placco, V. M., **Yoon, J.**, & AEGIS Collaboration. (2018, August). Kinematic and Chemical Analysis of AEGIS Survey Stars. In C. Chiappini, I. Minchev, E. Starkenburg, & M. Valentini (Eds.), *Rediscovering our galaxy* (Vol. 334, pp. 283–284). IAU Symposium. doi:10.1017/S1743921317006895

2. Lee, Y. S., Beers, T. C., **Yoon, J.**, Kim, Y. K., & Jeong, J. (2018, August). Assembly of the Galactic Halo System Based on Carbon-Enhanced Metal-Poor Stars. In C. Chiappini, I. Minchev, E. Starkenburg, & M. Valentini (Eds.), *Rediscovering our galaxy* (Vol. 334, pp. 327–328). IAU Symposium. doi:10.1017/S1743921317007529

3 Rasmussen, K. C., Beers, T. C., Placco, V. M., **Yoon, J.**, & Dietz, S. (2018, August). Measurement of [Fe/H] and [C/Fe] for Metal-Poor Stars from the RAVE Survey. In C. Chiappini, I. Minchev, E. Starkenburg, & M. Valentini (Eds.), *Rediscovering our galaxy* (Vol. 334, pp. 353–354). IAU Symposium. doi:10.1017/S1743921317007001

4 **Yoon, J.**, Whitten, D. D., Beers, T. C., Placco, V. M., Lee, Y. S., Dietz, S., … Rasmussen, K. C. (2018, August). Lifting the Veil on Ultra Metal-Poor Stars in the Outermost Halo. In C. Chiappini, I. Minchev, E. Starkenburg, & M. Valentini (Eds.), *Rediscovering our galaxy* (Vol. 334, pp. 389–390). IAU Symposium. doi:10.1017/S174392131700792X

5 **Yoon, J.**, Peterson, D. M., Armstrong, T., Clark, I., James H., Gilbreath, C., Pauls, T., & Schmitt, H. R. (2006, June). Early type stars as calibrators for ground-based interferometry. In *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (Vol. 6268, p. 626848). doi:10.1117/12.670309

Presentations

Invited Talks

Jun 2019 "We are Star Stuff: Galactic Archaeology and the Origin of the Elements", REU seminar talk, University of Notre Dame, IN

May 2019 "First-star nucleosynthetic imprints in the Milky Way and its satellite dwarf galaxies", 2019 JINA-CEE Frontiers meeting, East Lansing, MI

Dec 2018 "Decoding the Stellar Fossils of the First Stars", Astronomy colloquium talk, Astronomy program at Seoul National University, Seoul, Korea

"Unraveling the Assembly History of the Galactic halo with CEMP-no Stars", Colloquium talk, Korea Astronomy and Space Science Institute, Daejun, Korea

Oct 2017 "Galactic Archeology: Study of the Early Universe with Ancient Stars", the department of Physics and Astronomy at Indiana University at South Bend, South Bend, IN

Jul 2017 "Galactic Archeology: Study of the Early Universe with Metal-Poor Stars", Astronomy seminar atDepartment of Astronomy & Space Science, Chungnam National University, South Korea

Sep 2016 "Near-Field Cosmology with Carbon-Enhanced Metal-Poor stars", Astrophysics seminar, at Department of Physics, University of Notre Dame

Contributed Talks

Sep 2019 "Origin of CEMP-no morphology in the Milky Way halo" at CEMP stars as Probes of First-Star Nucleosynthesis, the IMF, and Galactic Assembly, University of Geneva, Switzerland

Dec 2018 "The Origin of CEMP-no: Connection to the Satellite Dwarf Galaxies" at Stellar Archeology as a Time Machine to the First Stars, IMPU, Japan

May 2018 "Near Field Cosmology with most metal-poor stars" at Enzo Workshop 2018, Atlanta, GA

Nov 2017 "Lifting the Veil of Ultra Metal-Poor stars in the Outermost Galactic Halo" at A Celebration of CEMP & Gala of GALAH workshop, Melbourne, Australia

Presentations (continued)

Aug 2017 — "Lifting the Veil of Ultra Metal-Poor stars in the Outermost Galactic Halo" at Giant Magellan Telescope Community meeting, Tarrytown, NY

Feb 2017 — "Best and Farthest: Searching for Ultra Metal-Poor stars in the Outermost Galactic Halo" at JINA-CEE Frontiers meeting, Lansing, MI

Jan 2017 — "Best and Farthest: Searching for Ultra Metal-Poor stars in the Outermost Galactic Halo" at 229th American Astronomical Society Meeting, Grapevine, TX

Sep 2016 — "Evidence for Multiple Progenitors of CEMP-no Stars" at Precision Spectroscopy 2016 workshop, Porto Alegre, Brazil

Oct 2008 — "Updating Vega's mass, age, and evolutionary status" at the Astronomical Society of New York

Apr 2007 — "The effects of rotation on early type stars as ground-based interferometry calibrators" at the Astronomical Society of New York

Posters

Jul 2017 — "Lifting the Veil of Ultra Metal-Poor stars in the Outermost Galactic Halo" at 334 IAU symposia, Potsdam, Germany

Apr 2017 — "Searching for Ultra Metal-Poor stars in the Outermost Galactic Halo" at JINA-CEE NSF review site visit, Michigan State University

Aug 2016 — "Absolute Carbon Abundance Distribution of Carbon-Enhanced Meta-Poor stars" at The First Stars conference, Heidelberg, Germany

Mar 2016 — "Carbon Plateaus among Carbon-Enhanced Metal-Poor stars" at 2016 JINA-CEE frontiers meeting, South Bend, IN

Jan 2016 — "Carbon Plateaus among Carbon-Enhanced Metal-Poor stars" at 227th American Astronomical Society meeting, Kissimmee, FL

Jun 2015 — Tracing Ultra Faint Dwarf galaxies with CEMP-no stars" at Local Group Astrostatistics conference, University of Michigan at Ann Arbor

Mar 2015 — "Searching for Ultra Faint Dwarf galaxies using CEMP-no stars" at JINA-CEE frontiers in Nuclear Astrophysics, Michigan State University

May 2006 — "Early type stars as calibrators for ground-based interferometry" at the International Society for Optical Engineering, Florida

Teaching Experience

- A year and half experience as a university instructor for designing curriculum, lecturing, grading, teaching and overseeing labs for undergraduate students and 5 years as a teaching assistant

May 2019 — Summer school lecturer, JINA-CEE First Frontiers Summer School, Michigan State University, East Lansing, MI
– a lecture about stellar evolution and elemental production processes

2002–2004 — Graduate Teaching Assistant, Department of Physics and Astronomy, Stony Brook University
Introductory Astronomy, Planetary Sciences, Physics Labs

Teaching Experience (continued)

2001–2002 — Adjunct Faculty (lecturer and Lab instructor), Department of Physics, University of Seoul
Introductory Physics I and II classes for engineering and science students

1999-2001 — Graduate Teaching Assistant, School of Physics, Seoul National University
Grading for introductory Physics I and II classes for engineering and science students

1998-1999 — Undergraduate Teaching Assistant, Department of Physics, University of Seoul

— Tutoring a high school student for University Physics

Teaching Workshops

— Attended several teaching workshops held at University of Notre Dame (Kaneb Center for Teaching and Learning)

Nov 2017 — Beyond the Abstract: Teaching with Scientific Literature

— Maker Series: Adobe Spark Video

Oct 2017 — Preparing for the Academic Job Search IV: Writing a Teaching Statement

Sep 2017 — James Lang Small Teaching Book Presentation

Apr 2017 — A Landscape View of Digital Teaching and Learning: How to Jump in

— Helping Students in Distress

Jan 2017 — Understanding and Fostering Student Motivation

Nov 2016 — Teaching Writing across Disciplines

Sep 2016 — Foundations of Teaching in STEM Session I-IV

Jan 2016 — Once Upon a Time: Storytelling as a Tool for Teaching and Learning

Mentoring Experience

2019–Present — Leading and mentoring a group of graduate students (Dmitrii Gudin, Devin Whitten, and Joseph Zepeda) for a project (CCSLab), which analyzes very cool (Teff $<$4500 K) CEMP stars and develops an automated python package of stellar parameter pipeline for cool CEMP stars.

2017–2018 — Di Tian (REU student at University of Notre Dame from Xi'an Jiaotong University, China)
– kinematics studies of the high latitude high proper motion stars
– Explore A(C)-[Fe/H] relation of satellite dwarf galaxies
– Led to a publication for the Astrophysical Journal (Yoon et al., 2019, ApJ, 878,97)

2017–Present — Dmitrii Gudin (Graduate student at University of Notre Dame)
– Study of galaxy formation via data of metal poor stars from cosmological simulations and the project CCSLab.

Mentoring Experience (continued)

- Devin Whitten (Graduate student at University of Notre Dame)
  – Developing a novel technique to derive reliable stellar parameters for very cool carbon stars
  – Led to two publications in the Astrophysical Journal (Yoon et al., 2019, 878, 97 and Yoon et al., 2019, ApJ submitted) and two articles in preparation (" CCSLab: a python package of stellar parameter pipeline for very cool carbon enhanced stars" & "Where are ultra metal-poor stars found in the Galaxy?")

2016–Present
- Sarah Dietz (Graduate student at University of Notre Dame)
  – Kinematics studies of the metal-poor stars and metallicity gradient in the Galactic halo
  – Led to two publications in the Astrophysical Journal (Dietz et al. 2018 & Yoon et al. 2018) and two in prep ("Kinematic study of the MWTD with the AEGIS survery" & "Metallicity Gradient in the Outermost Galactic Halo")

2015-2016
- Kaitlin Rasmussen (Graduate student at University of Notre Dame)
  – First-star nucleosynthesis using CEMP stars, led to two publications (Yoon et al., 2016, ApJ, 833, 20 & Rasmussen et al. 2018)

Summer 2005
- Danielle Kumpulanian (REU student from RPI at Stony Brook University)
  – Helping basic linux operation and programming

Outreach Activities

Apr 2019
- *Our Universe Revealed* series, an outreach public program at the Department of Physics at University of Notre Dame
  – A public outreach talk titled "Galactic Archeology"

Feb 2019
- South Bend community science fair 'Science Alive' for general public audience
  – Lead an activity of explaining body composition and the origins of the elements

Aug 2017
- Great American Solar Eclipse
  –Helping out observation for the public

Jun 2016
- JINA-CEE Art2Science Camp for 2-8th grade students
  – Leading Atomic spectroscopy activity

Apr 2016
- Michiana Astronomical Society Meeting, South Bend, IN
  – A public outreach talk titled "Galactic Archeology: Search for the oldest stars"

Feb 2016
- South Bend community science fair 'Science Alive' for general public audience
  – Help out/lead an activity of explaining how outer space is like, using vacuum chambers

2016–Present
- AAS Astronomy Ambassador

2004–2008
- Public observation session at Stony Brook University

Professional Associations

2016–Present
- AAS Astronomy Ambassador cohort 2016

2016
- Astronomical Society of Pacific (ASP)

2015–Present
- Joint Institute for Nuclear Astrophysics-Center for the Evolution of the Elements

Professional Associations (continued)

2006–Present
- American Astronomical Society (AAS)

Service

2019–Present
- Serving as a mentor for Advancing Women Leaders program at University of Notre Dame

May 2019
- Co-organizer and lecturer, First Frontiers Summer School, Michigan State University, East Lansing, MI

Mar 2019
- Grant review panelist, National Science Foundation, 2019 Astronomy and Astrophysics Grant Review

May 2018
- Organizing chairperson, JINA-CEE Frontiers in Nuclear Astrophysics, University of Notre Dame, IN
  – Featured at `http://www.jinaweb.org/docs/Newsletters/JINA-CEE-Newsletter-September-2018Final.pdf`
  – Overseeing local and scientific organizing for both Junior Researchers Workshop ($\sim$ 70 people) and the main conference ($\sim$ 130 people)
  – The main conference consisted of invited science talks, contributed talks, poster sessions, and breakout sessions.
  – Offered a diversity & inclusion talk titled as "Blinded to Excellence" based on neuroscience and behavioral studies.
  – Junior Research Workshop offered scientific writing, grant writing, publishing AAS journals, speaking skills, outreach workshop along with overview talks and contributed talks

Feb 2017
- Co-organizer, JINA-CEE Frontiers in Nuclear Astrophysics, East Lansing
- Session chair, Junior Researcher workshop, JINA-CEE Frontiers in Nuclear Astrophysics, East Lansing, MI

Mar 2016
- Co-organizer, JINA-CEE Frontiers in Nuclear Astrophysics, South Bend, IN

2016 – Present
- AAS Astronomy Ambassador, Astronomical Society of Pacific and American Astronomical Society.

Miscellaneous Experience

Computing and Data Science

Coding languages
- C, Python, IDL

Data science
- Python, CFITSIO, R, Postgresql,MATPLOTLIB, PGPLOT, GNUPLOT

Spectroscopy
- SMH, IRAF, SSPP, n-SSPP, MOOG, SYNTHE, modsCCDRed

Simulations
- NuPyCEE pipeline (Galactic Chemical Evolution codes), GALPY (Kinematics code), ROCHE (Rotating star modeling code)

Miscellaneous Experience (continued)

Project Management

2018–present — Project leader for the CCSLab project group, which analyzes very cool (Teff< 4500 K) carbon enhanced stars and develops a python package of stellar parameter pipeline and mentoring 3 graduate students for this project at the Physics Department, University of Notre Dame

2018–Present — Leading a project which explores metallicity gradient in the Galactic halo and mentoring a graduate student, Sarah Dietz for this project

2017–2018 — Organizing chair for 2018 JINA-CEE Frontiers meeting (130+ people) and Junior researchers workshop (~ 70 people), University of Notre Dame and Joint Institute for Nuclear Astrophysics-Center for the Evolution of the Element

2004–2008 — Dissertation projects, "Rotation and Evolution of A and F type stars"

Fall 1998 — Physics Department administrative assistant, University of Seoul, Seoul, Korea

Media/Press/Newsletters

Sep 2018 — Frontiers in Nuclear Astrophysics meeting 2018 featured at JINA-CEE newsletter (http://www.jinaweb.org/docs/Newsletters/JINA-CEE-Newsletter-September-2018Final.pdf)

Dec 2016 — "Second-generation stars identified, giving clues about their predecessors", by Brian Wallheimer featured at Notre Dame News (http://news.nd.edu/news/second-generation-stars-identified-giving-clues-about-their-predecessors/), Science Daily, Phys.org, EurekAlert, eScience News.

Aug 2016 — "Evidence for multiple progenitors for CEMP-no stars" , featured at JINA-CEE newsletter (http://www.jinaweb.org/docs/Newsletters/JINA-CEE-Newsletter-4-2016.pdf)

Jul 2016 — "Hints of Universe's Very First Stars" , by Bruce Dorminey featured at Forbes magazine (http://www.forbes.com/sites/brucedorminey/2016/07/31/astronomers-characterize-cosmos-first-stars/#439b6fa86603)

References

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