

Dr. Rana Ezzeddine

Assistant Professor

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EMPLOYMENT	Assistant Professor Department of Astronomy, University of Florida Gainesville, FL	Jan 2020 - present
	Postdoctoral Fellow Joint Institute for Nuclear Astrophysics – Center for the Evolution of Elements (JINA-CEE) Kavli Institute for Astrophysics and Space Research Massachusetts Institute of Technology Cambridge, MA, USA	2016-2019
EDUCATION	Ph.D in Physics - Université de Montpellier, France	2012-2015
	Master of Sciences in Astrophysics <i>Joint degree:</i> Notre Dame University, Lebanon & Université de Saint Joseph, Lebanon	2010-2012
	Bachelor of Sciences in Physics - Lebanese University, Lebanon	2005-2008
AWARDS AND GRANTS	Heising-Simons Physics Research Fellowship - MIT	2019
	Co-I. NASA Hubble Space Telescope - GO-15951	2019-2023
	Co-I. NASA Hubble Space Telescope - GO-15657	2018-2022
	Co-I., NASA Hubble Space Telescope - GO-14151	2016-2019
	JINA-CEE postdoctoral fellowship - MSU/MIT	2016-present
	IAU symposium 334 poster 1st prize award	2017
	IAU travel grant for Symposium 334	2017
	MIT Spot Award	2017
	PHC CEDRE grant (France) - Project number 32919SL: 3400 €	2015
	1M CPU hours - FRANCE-GRILLES/DIRAC grid	2014-2015
	University of Montpellier PhD fellowship	2012-2015
	CNRS-Lebanon PhD fellowship	2012-2015
	Masters Graduate Fellowship - Notre Dame University, Lebanon	2011-2012
TEACHING & MENTORING	Mentoring of Graduate research Shivani Shah (<i>PhD student, University of Florida</i>) Yangyang Li (<i>PhD student, University of Florida</i>) Nicholas Barth (<i>PhD student, University of Florida</i>) Francisco Mendez (<i>PhD student, University of Florida</i>)	2020-present

Graduate level Teaching

AST 6245 : Radiative Transfer & Stellar Atmospheres Fall 2021
(University of Florida, Gainesville, FL)
AST 6215 : Stars and the Galaxy Spring 2020, Spring 2021
(University of Florida, Gainesville, FL)

Mentoring of undergraduate & highschool research

University of Florida, Gainesville, FL

- Jeremy Kowkabany Spring 2020 - present
- Zoe Hackshaw Spring 2020 - present
- Natalia Wolschlagier Spring 2020 - present
- Jonathan Roberts Fall 2021
- Victoria Moore Spring 2021
- Daniel Warschofsky Spring 2021 - present
- Nima Aria Summer 2021 - present

Massachusetts Institute of Technology, Cambridge, MA

- Fouad Chahrour (Fullbright Fellow, Germany/Harvard) 2018 - 2019
- Subhash Kantamneni (RSI highschool student summer research) Summer 2019,
Final Presentation ([Link](#))
- Xinmiao (Anna) Hu (Undergraduate exchange summer research, Summer 2019
Imperial College London/UK)

Summer School Lectures

2017

MIT Undergraduate Research Opportunities Program students (UROP)
"Introduction to Radiative Transfer in Stellar Atmospheres",
MIT, Cambridge, MA

Undergraduate Physics Teaching Fellow

2011-2012

Astronomy 101: "Introduction to the Solar System"
Notre Dame University, Louaize, Lebanon

General Physics Lab Teaching Fellow

2011-2012

Notre Dame University, Louaize, Lebanon

Electricity and Magnetism Physics Lab Teaching Fellow

2011-2012

Notre Dame University, Louaize, Lebanon

Highschool Physics Instructor

2008-2012

- Beirut Modern School, Beirut, Lebanon
- Amjad College, Beirut, Lebanon

COMPETITIVELY AWARDED **Co-Investigator** - Keck Telescope, Hawaii (0.5 nights total) 2021
"New Uranium Lines for Nucleocosmochronometry"
OBSERVING TIME **Principal Investigator** - Gran Telescopio Canarias (50 hrs total) 2019-2020
"Characterizing r-process nucleosynthesis models of enhanced r-process stars"
Co-Investigator - Gran Telescopio Canarias (12 hrs total) 2019-2020
"Characterizing Extremely Metal Poor Stars from DESI"
Co-Investigator - McDonald Observatory 2.7 m Telescope (12 nights) 2019-2020
Co-Investigator - Hubble Space Telescope (GO-15951, 17 orbits) 2020-2022
"Testing r-process nucleosynthesis models with two r-process enhanced stars"

Co-Investigator - Hubble Space Telescope (GO-15657, 37 Orbits) 2019-2021
“HD 222925: A unique opportunity to study the full range of nuclei produced by a single r-process event”

Principal Investigator - Magellan Clay Telescope (>30 nights total) 2016-2019
“Characterizing the population of r-process stars in the Galactic Halo”

Co-Investigator - Magellan Clay Telescope (2 nights) 2018
“J0023–0307: A rare second-generation star with $[Fe/H] < -6$ ”

Co-Investigator - Magellan Clay Telescope (8 nights) 2016-2017
“Discovering the most metal-poor stars from the SkyMapper Survey”

Co-Investigator - Hubble Space Telescope (GO-14151, 24 Orbits) 2015-2018
“Constraining Pop III supernova energies and the formation of the first low-mass stars with the iron-poor star HE 1327–2326”

INVITED PRESENTATIONS

2021

Astronomy Seminar (Virtual) (*Université Libre de Bruxelles, Brussels, Belgium*)
Physics Colloquium (Virtual) (*High Altitude Observatory , CO*)

2020

AAS Journal author Youtube series (*with ApJ editor Frank Timmes, [Link](#)*)
Astrophysics Colloquium (Virtual) (*University of New South Wales Sydney*)
Astrophysics Colloquium (Virtual) (*Carnegie Observatories, CA*)
Online Webinar (*JINA-CEE, [Link](#)*)

2019

Astrophysics Colloquium (*Massachusetts Institute of Technology, MA*)
Astronomy Seminar (*Brandeis University, MA*)
Astronomy Seminar (*University of Texas A&M, TX*)
Astronomy Seminar (*University of Notre Dame, IN*)
Astrophysics Colloquium (*University of Florida, FL*)

2018

Lunch Seminar *Harvard CfA, Institute for Theory & Computation (ITC), MA*
Astrophysics Seminar *Pontifical Catholic University of Chile, Santiago, Chile*
Eleventh International Conference on Atomic and Molecular Data and Their Applications - *Cambridge, MA*
The Metal poor Galaxy Meeting - *Ringberg, Germany*
FRIB and the GW170817 kilonova - *Lansing, MI*

2015-2017

Physics Colloquium - *American University of Beirut, Beirut, Lebanon*
Stellar Astrophysics Seminar - *University of Heidelberg, Heidelberg, Germany*
JINA-CEE online webinar - ([Link](#))
Astrophysics Seminar - *Michigan State University, East Lansing, MI*
Astrophysics Seminar - *Université Libre de Bruxelles, Brussels, Belgium*

CONTRIBUTED
PRESENTATIONS

2019

CEMP stars as probes of First stars Nucleosynthesis - Geneva, Switzerland
JINA-CEE 2019 Frontiers meeting - East Lansing, MI

2018

Galactic Archeology as time machines to the First stars - Tokyo, Japan
Cool stars 20 (plenary session, [Link](#)) - Boston, MA, USA

2017

IAU symposium 334 1st prize poster award - Potsdam, Germany
JINA-CEE Frontiers meeting (Junior workshop) - Lansing, MI, USA

2013- 2016

MIT Kavli Institute postdoc symposium - MIT, Cambridge, MA
JINA-CEE Frontiers meeting - South Bend, IN
The Milky Way's History WE-Heraeus-Seminar - Bad Honnef, Germany
Annual meeting of the French Society of Astronomy & Astrophysics - Montpellier, France

PROFESSIONAL
ACTIVITIES

External Review - Hubble Space Telescope Cycle 29	2021
Review Panel - NASA TCAN	2020
External Review - NASA Postdoctoral Program	2019-2020
Institute Representative - GTC User's committee	2020-present
Review Panel - Hubble Space Telescope Cycle 28	2020
Review Panel - NASA Astrophysical Theory Program	2019
Review Panel - Hubble Space Telescope Cycle 27	2019
External Review - NASA FINESST	2019
Referee - IOP, A&A, Nature Astronomy & Springer Journals	2017-present
Review Panel - Heising Simmons Physics Research Fellows, MIT	2018
Seminar organizer - Brown Bag Lunch talk series, MIT	2017-2019
LOC - JINA-CEE 2019 frontiers meetings	2018-2021
LOC - Cool stars 20	2018
External Review , Canada-France-Hawaii Telescope	2017
Organizer - Postdoc lunch series, MIT	2016-2017
Co-organizer - MIT Kavli Institute postdoc symposium	2016

OUTREACH &
SCIENCE
COMMUNICATION

Leading Roles

Co-creator, organizer - Astronomy on Tap, Boston Series	2017-present
Co-creator - Lebanese Astronomical Society	2020-present
Co-creator - Lebanese Astronomy group	2006-present
Co-organizer - Beirut Science Days	2006-2012

Events/ Public Talks

Speaker, Lecturer - 8th grade Western Pines Middle Astronomy (virtual)	2021
Speaker - "Galactic Getaway", Science in Every Florida School (virtual)	2020
Panelist, Speaker - Festival d'Astronomie de Fleurance (virtual)	2020
Speaker - Moon Shots: Apollo 11th 50th anniversary (MIT Museum)	2019
Speaker - "Exciting Astronomy Questions" (Tokyo, Japan)	2018

	Speaker - <i>Science Café (Beirut, Lebanon)</i>	2017
	<i>“Where do elements in the Universe come from?”</i>	
	Speaker - <i>Astronomy on Tap (Boston, MA)</i>	2017
	<i>“How is gold (and other heavy elements) made in stars?”</i>	
	Speaker - <i>Astronomy on Tap (Cambridge, MA)</i>	2017
	<i>“How to find the oldest stars in the Universe?”</i>	
	Speaker - <i>“How to become a scientist?” (Potomac High school)</i>	2017
	Organizer - <i>International year of Astronomy 2009 (Lebanon)</i>	2009
	Organizer - <i>100 hours of Astronomy (Lebanon)</i>	2009
MEDIA & PRESS RELEASES	Florida Museum of Natural History –	2020
	<i>Indiana Jones of the Galaxy Teaches Students About the Wonders of the Night Sky</i>	
	Pour La Science –	2019
	<i>Des jets puissants pour la mort des premières étoiles</i>	
	Science et Vie –	2019
	<i>Astrophysique : l’explosion des premières étoiles a nourri l’Univers</i>	
	Scientific American –	2019
	<i>The Universe’s First Stars Exploded in Strange Ways</i>	
	IPMU Press Release –	2019
	<i>Explosions of universes first stars spewed powerful jets</i>	
	SyfyWIRE –	2019
	<i>When the first stars in the Universe exploded, they *really* exploded</i>	
	Newsweek –	2019
	<i>The Universe’s First Stars Exploded, Sending Out Powerful Jets That Produced New Ones</i>	
	TechTimes –	2019
	<i>First Stars In The Universe Were Short-Lived And Ejecting Giant Jets Of Matter</i>	
	Astronomy Magazine –	2019
	<i>The universe’s first supernovae spewed jets of material into nearby galaxies</i>	
	MIT Press Release –	2019
	<i>Explosions of universes first stars spewed powerful jets</i>	
	Interviewee <i>“Cosmic Front: Next Generation” documentary series</i>	2017
LANGUAGES	<i>Arabic (native): read, written, spoken</i>	
	<i>English (quadrilingual): read, written, spoken</i>	
	<i>French (quadrilingual): read, written, spoken</i>	
	<i>German (quadrilingual): read, written, spoken</i>	
	<i>Spanish : read and spoken</i>	
LIST OF PUBLICATIONS	Full list of publications can be accessed at:	
	- NASA ADS (Link)	
	- Google Scholar (Link)	