

# ROCIO KIMAN

Citizenship: Argentinian and Spanish  
Email: rociokiman@gmail.com  
Website: [rkiman.github.io](https://rkiman.github.io)  
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California Institute of Technology  
1200 E California Blvd  
Pasadena, California 91125

<b>Appointments</b>	<b>Sherman Fairchild Postdoctoral Scholar</b>	2022–Present
	<b>Research Associate in Astronomy</b> California Institute of Technology Pasadena, California, USA.	
	<b>Postdoctoral Scholar</b>	2021–2022
	Kavli Institute for Theoretical Physics University of California, Santa Barbara Santa Barbara, California, USA.	
<b>Education</b>	<b>The Graduate Center, City University of New York</b>	2016–2021
	Ph.D. in Physics Master of Philosophy Physics (June 2, 2020) Thesis Title: “A Unified Approach to M Dwarf Ages” Thesis Advisors: Dr. Jackie Faherty & Dr. Kelle Cruz New York, New York, USA.	
	<b>Universidad de Buenos Aires</b>	2011–2016
	Licenciatura in Physics Thesis Title: “Higgs boson pair production at the LHC” Thesis Advisor: Prof. Daniel de Florian Buenos Aires, Argentina.	
<b>Grants &amp; Awards</b>	Chandra Cycle 25 General Observer Program (PI: C. Garraffo)	2023
	TESS Cycle 5 Guest Investigator Program, for \$70,000	2022
	Burke Fellowship, California Institute of Technology	2021
	Humboldt Research Fellowship for Postdoctoral Researchers (declined)	2021
	PSC-CUNY Cycle 51 Trad B Research Award, (PI: K.Cruz) for \$6000	2020
	Sigma Xi Grants in Aid of Research, for \$4334	2019
	Doctoral Student Research Grant (Round 14) for \$875	2019
	Provost’s Pre-Dissertation Research Fellowship for the Sciences, for \$5000	2019
	K2 Guest Observer Cycle 6 (PI: J. Faherty) for \$125,000	2018
	PSC-CUNY Cycle 49 Trad B Research Award (PI: K.Cruz) for \$6000.00	2018
	CUNY Science Scholarship, City University of New York	2016
	CONICET Doctoral Fellowship, University of Buenos Aires	2016
<b>Open source code and tutorials</b>	<b>wdwarfdate:</b> Open source code that estimates ages of white dwarfs in a Bayesian framework. <a href="#">[Source]</a> <a href="#">[Docs]</a>	
	<b>Modeling 1:</b> Make a quick fit using <code>astropy.modeling</code> Astropy Python Package tutorial. <a href="#">[Docs]</a>	
	<b>Modeling 2:</b> Create a User Defined Models using <code>astropy.modeling</code> Astropy Python Package tutorial. <a href="#">[Docs]</a>	

**First Author  
Publications**

4. Accurate and Model Independent Radius Determination of Single FGK and M Dwarfs Using Gaia DR3 Data.  
**Kiman, R.**; Brandt, T. D.; Faherty, J. K.; Popinchalk, M.; submitted to AJ.
3. [wdwarfdate: A Python Package to Derive Bayesian Ages of White Dwarfs](#).  
**Kiman, R.**; Xu, S.; Faherty, J.K.; Angus, R.; Brandt, T.D.; Casewell, S.L., Gagné, J., Cruz, K.L.; The Astronomical Journal, 164, 2, 13 (2022) DOI: 10.3847/1538-3881/ac7788, citations: 11
2. [Calibration of the H \$\alpha\$  Age-Activity relation for M dwarfs](#)  
**Kiman, R.**; Faherty, J.K.; Cruz, K.L.; Gagné, J.; Angus, R.; Schmidt, S. J.; Mann, A.W.; Bardalez Gagliuffi, D.C.; Rice, E.; The Astronomical Journal, 161, 6, 22 (2021) DOI: 10.3847/1538-3881/abf561, citations: 31
1. [Exploring the age dependent properties of M and L dwarfs using \*Gaia\* and SDSS](#).  
**Kiman, R.**, Schmidt, S.J., Angus, R., Cruz, K.L., Faherty, J.K. & Rice, E., The Astronomical Journal, 157, 6, 231 (2019) DOI: 10.3847/1538-3881/ab1753, citations: 47

**Co-author  
Publications**

19. [High-Precision Atmospheric Constraints for a Cool T Dwarf from JWST Spectroscopy](#)  
Hood, C.E.; Mukherjee, S.; Fortney, J.J.; Line, M.R.; Faherty, J.K.; Alejandro Merchan, S. ; Burningham, B.; Suárez, G.; **Kiman, R.**; Gagné, J.; Beichman, C.A.; Vos, J.M.; Bardalez Gagliuffi, D.; Meisner, A.M. ; Gonzales, E.C., Submitted to Nature Astronomy, DOI: 10.48550/arXiv.2402.05345
18. [The Initial Mass Function Based on the Full-sky 20-pc Census of  \$\sim 3,600\$  Stars and Brown Dwarfs](#)  
Kirkpatrick, J.D.; Marocco, F.; Gelino, C.R.; Raghu, Y.; Faherty, J.K.; Bardalez Gagliuffi, D.C.; Schurr, S.D.; Apps, K.; Schneider, A.C.; Meisner, A.M.; Kuchner, M.J.; Caselden, D.; Smart, R.L.; Casewell, S.L.; Raddi, R.; Kesseli, A.; Stevnbak Andersen, N.; Antonini, E.; Beaulieu, P.; Bickle, T.P.; Bilsing, M.; Chieng, R.; Colin, G.; Deen, S.; Dereveanco, A.; Doll, K.; Durantini Luca, H.A.; Frazer, A.; Gantier, J.M.; Gramaize, L.; Grant, K.; Hamlet, L.K.; Higashimura, H.; Hyogo, M.; Jałowiczor, P.A.; Jonkeren, A.; Kabatnik, M.; Kiwy, F.; Martin, D.W.; Michaels, M.N.; Pendrill, W.; Pessanha Machado, C.; Pumphrey, B.; Rothermich, A.; Russwurm, R.; Sainio, A.; Sanchez, J.; Sapelkin-Tambling, F.T.; Schümann, J.; Selg-Mann, K.; Singh, H.; Stenner, A.; Sun, G.; Tanner, C.; Thévenot, M.; Ventura, M.; Voloshin, N.V.; Walla, J.; Wedracki, Z.; Adorno, J.I.; Aganze, C.; Allers, K.N. ; Brooks, H.; Burgasser, A.J.; Calamari, E.; Connor, T.; Costa, E.; Eisenhardt, P.R.; Gagné, J.; Gerasimov, R.; Gonzales, E.C.; Hsu, C.; **Kiman, R.**; et al., Accepted for publication in The Astrophysical Journal Supplement Series, DOI: 10.48550/arXiv.2312.03639, citations: 1
17. [A Wolf 359 in Sheep's Clothing: Hunting for Substellar Companions in the Fifth-closest System Using Combined High-contrast Imaging and Radial Velocity Analysis](#)  
Bowens-Rubin, R.; Akana Murphy, J. M.; Hinz, P. M.; Limbach, M. A.; Seifahrt, A.; **Kiman, R.**; Salama, M.; Mukherjee, S.; Brady, M.; Carter, A. L.; Jensen-Clem, R.; van Kooten, M. A. M.; Isaacson, H.; Kosiarek, M.; Bean, J. L.; Kasper, D.; Luque, R.; Stefánsson, G.; Stürmer, J.; The Astronomical Journal, 166, 6, 23 (2023) DOI: 10.3847/1538-3881/ad03e5
16. [Dynamical masses and ages of Sirius-like systems](#)  
Zhang, H.; Brandt, T. D.; **Kiman, R.**; Venner, A.; An, Q.; Chen, M.; Li, Y.; Monthly Notices of the Royal Astronomical Society, 524, 1, 695-715 (2023) DOI: 10.1093/mnras/stad1849, citations: 1
15. [Surveying nearby brown dwarfs with HGCA: direct imaging discovery of a faint, high-mass brown dwarf orbiting HD 176535 A](#)  
Li, Y.; Brandt, T. D.; Brandt, G. M.; An, Q.; Franson, K.; Dupuy, T. J.; Chen, M.; Bowens-Rubin, R.; Lewis, B. L.; Bowler, B. P.; Gibbs, A.; **Kiman, R.**; Faherty, J. K.; Currie, T.; Jensen-Clem, R.; Zhang, H.; Contreras-Martinez, E.; Fitzgerald, M. P. ;

- Mazin, B. A.; Millar-Blanchaer, M.; Monthly Notices of the Royal Astronomical Society, 522, 4, 622-5637 (2023) DOI: 10.1093/mnras/stad1315, citations: 3
14. [The Oceanus Moving Group: A New 500 Myr Old Host for the Nearest Brown Dwarf](#)  
Gagné, J.; Moranta, L.; Faherty, J. K.; **Kiman, R.**; Couture, D.; Larochelle, A. R.; Popinchalk, M.; Morrone, D.; The Astrophysical Journal, 945, 2, 23 (2023) DOI: 10.3847/1538-4357/acb8b7, citations: 3
  13. [Examining the Rotation Period Distribution of the 40 Myr Tucana-Horologium Association with TESS](#)  
Popinchalk, M.; Faherty, J. K.; Curtis, J. L.; Gagné, Jonathan; Bardalez Gagliuffi, D. C.; Vos, J. M.; Ayala, A.; Gonzales, L.; **Kiman, R.**; The Astrophysical Journal, 945, 2, 18 (2023) DOI: 10.3847/1538-4357/acb055, citations: 3
  12. [Magnetic braking saturates: evidence from the orbital period distribution of low-mass detached eclipsing binaries from ZTF](#)  
El-Badry, K.; Conroy, C.; Fuller, J.; **Kiman, R.**; van Roestel, J.; Rodriguez, A. C.; Burdge, K. B.; Monthly Notices of the Royal Astronomical Society, Advance Access (2022) DOI: 10.1093/mnras/stac2945, citations: 15
  11. [The POKEMON Speckle Survey of Nearby M Dwarfs. I. New Discoveries](#)  
Clark, C. A.; van Belle, G. T.; Horch, E. P.; von Braun, K.; Ciardi, D. R.; Winters, J. G.; **Kiman, R.**; The Astronomical Journal, 164, 2, 13 (2022) DOI: 10.3847/1538-3881/ac739c, citations: 9
  10. [Discovery of 34 Low-mass Comoving Systems Using NOIRLab Source Catalog DR2](#)  
Kiwy, F.; Faherty, J. K.; Meisner, A.; Schneider, A. C.; Kirkpatrick, J. D.; Kuchner, M. J.; Burgasser, A. J.; Casewell, S.; **Kiman, R.**; Calamari, E.; Aganze, C.; Hsu, C.; Sainio, A.; Thakur, V.; Backyard Worlds: Planet 9 Collaboration; The Astronomical Journal, 164, 1, 24 (2022) DOI: 10.3847/1538-3881/ac68e7, citations: 5
  9. [WDJ220838.73+454434.04: a White Dwarf Companion in the AR Lacertae System](#)  
Bickle, T. P.; Jalowiczor, P. A.; Casewell, S. L.; Faherty, J. K.; **Kiman, R.**; Schneider, A. C.; Kirkpatrick, J. D.; Meisner, A. M.; Kuchner, M. J.; Caselden, D.; Backyard Worlds: Planet 9 Collaboration; Research Notes of the AAS, 6, 6, 127 (2022). DOI: 10.3847/2515-5172/ac780a, citations: 1
  8. [Ross 19B: An Extremely Cold Companion Discovered via the Backyard Worlds: Planet 9 Citizen Science Project](#)  
Schneider, A. C.; Meisner, A. M.; Gagne, J.; Faherty, J. K.; Marocco, F.; Burgasser, A. J.; Kirkpatrick, J. D.; Kuchner, M. J.; Gramaize, L.; Rothermich, A.; Brooks, H.; Vrba, F. J.; Bardalez Gagliuffi, D.; Caselden, D.; Cushing, M. C.; Gelino, C. R.; Line, M. R.; Casewell, S. L.; Debes, J. H.; Aganze, C.; Ayala, A.; Gerasimov, R.; Gonzales, E. C.; Hau, C.; **Kiman, R.**; Popinchalk, M.; Theissen, C.; The Backyard Worlds: Planet 9 Collaboration; The Astrophysical Journal, 921, 2, 13 (2021) DOI: 10.3847/1538-4357/ac1c75, citations: 10
  7. [Evaluating Rotation Periods of M dwarfs](#)  
Popinchalk, M.; Faherty, J.; **Kiman, R.**; Angus, R.; Curtis, J.; Gagne, J.; Cruz, K.; Rice, E.; The Astrophysical Journal, 916, 2, 77 (2021) DOI: 10.3847/1538-4357/ac0444, citations: 32
  6. [Gyro-Kinematic Ages for 29,949 Kepler Stars](#)  
Lu, Y.; Angus, R.; Curtis, J.L.; David, T.J., **Kiman, R.**; The Astronomical Journal, 161, 4, 189 (2021) DOI: 10.3847/1538-3881/abe4d6, citations: 24
  5. [The Field Substellar Mass Function Based on the Full-sky 20-pc Census of 525 L, T, and Y Dwarfs.](#)  
Kirkpatrick, J.D.; Gelino, C.R.; Faherty, J.K.; Meisner, A.M.; Caselden, D.; Schneider, A.C.; Marocco, F.; Cayago, A.J.; Smart, R.L.; Eisenhardt, P.R.; Kuchner, M.J.; Wright, E.L.; Cushing, M.C.; Allers, K.N.; Bardalez Gagliuffi, D.C.; Burgasser, A.J.; Gagne, J.;

Logsdon, S.E.; Martin, E.C.; Ingalls, J.G.; Lowrance, P.J.; Abrahams, E.S.; Aganze, C.; Gerasimov, R.; Gonzales, E.C.; Hsu, C.; Kamraj, N.; **Kiman, R.**; et al, The Astrophysical Journal Supplement Series, 253, 1, 85 (2021) DOI: 10.3847/1538-4365/abd107, citations: 98

4. [Discovery of a Nearby Young Brown Dwarf Disk](#)  
Schutte, M. C.; Lawson, K. D.; Wisniewski, J. P.; Kuchner, M. J.; Silverberg, S. M.; Faherty, J. K.; Bardalez Gagliuffi, D. C.; **Kiman, R.**; Gagné, J.; Meisner, A.; Schneider, A. C.; Bans, A. S.; Debes, J. H.; Kovacevic, N.; Bosch, M. K. D.; Durantini Luca, H. A.; Holden, J.; Hyogo, M.; The Astronomical Journal, 160, 4, 10 (2020) DOI: 10.3847/1538-3881/abaccd, citations: 3
3. [Spitzer Follow-up of Extremely Cold Brown Dwarfs Discovered by the Backyard Worlds: Planet 9 Citizen Science Project.](#)  
Meisner, A. M.; Faherty, J.K.; Kirkpatrick, J. D.; Schneider, A.C.; Caselden, D.; Gagné, J.; Kuchner, M.J.; Burgasser, A.J.; Casewell, S.L.; Debes, J.H.; Artigau, É.; Bardalez Gagliuffi, D.C.; Logsdon, S.E.; **Kiman, R.** et al., The Astrophysical Journal, 899, 2, 123 (2020) DOI:10.3847/1538-4357/aba633, citations 30
2. [Exploring the evolution of stellar rotation using Galactic kinematics](#)  
Angus, R.; Beane, A.; Price-Whelan, A. M.; Newton, E.; Curtis, J. L.; Berger, T.; van Saders, J.; **Kiman, R.**; Foreman-Mackey, D.; Lu, Y.; Anderson, L.; Faherty, J. K., The Astronomical Journal, 160, 2 (2020) DOI: 10.3847/1538-3881/ab91b2, citations: 36
1. [Toward Precise Stellar Ages: Combining Isochrone Fitting with Empirical Gyrochronology.](#)  
Angus, R., Morton, T. D., Foreman-Mackey, D., van Saders, J., Curtis, J., Kane, S. R., Bedell, M., **Kiman, R.**, Hogg, D. W.; Brewer, J. The Astronomical Journal, 158, 5, 12 (2019) DOI: 10.3847/1538-3881/ab3c53, citations: 90

<b>Observing Time Awarded</b>	Three nights with the Double Spectrograph (DBSP), Palomar Observatory for the 2023A semester (PI: R. Kiman).
	Three nights with the Double Spectrograph (DBSP), Palomar Observatory for the 2022B semester (PI: G. Hallinan).

<b>Observing experience</b>	Three nights with the Double Spectrograph (DBSP), Palomar Observatory	Spring semester 2023
	Three nights with the Double Spectrograph (DBSP), Palomar Observatory	Fall semester 2022
	FIRE at the Magellan Telescope at Las Campanas Observatory in Chile. For the Backyard worlds project.	December 10–13 2019
	SpeX at the NASA Infrared Telescope Facility (NASA IRTF)	August 28 2018
	Telescope at the Mauna Kea Observatory in Hawaii. Remote Observing.	
	CAPSCam at the DuPont Telescope	November 30 2017
	at Carnegie's Las Campanas Observatory in Chile. Remote Observing.	

<b>Research Advising</b>	<b>Undergraduate Students</b>	
	Neha Sajia Shahrin, Astrophysics Major, Princeton University	Summer 2024
	Waly M.Z. Karim, Physics and Astronomy Major, University of Rochester	Summer 2024
	Khant Nyi Hlaing Computer Science Major, Pasadena City College	2023–Present
	Naunet Leonhardes-Barboza, Astronomy Major, Wellesley Astrophysics	2023–2024
	Xiyue Shen, Physics Major, Bryn Mawr College	2023–2024

<b>Press</b>	Kavli Institute for Theoretical Physics <a href="#">Newsletter interview</a>	2022
	<a href="#">JWST Explained</a> video with the Santa Barbara Museum of Natural History	2022
	City University of New York <a href="#">News interview</a>	2021
<b>Service</b>	Journal Referee, ApJ, AJ	2021–Present
	Astronomy Seminar Organizer, California Institute of Technology	2023–Present
	Pizza Lunch Journal Club, California Institute of Technology	2022–Present
	Astrophysics Seminar Organizer, American Museum of Natural History	2019–2021
<b>Invited Talks</b>	Seminar Center for Astrophysics, Harvard University, October 18 2022, <i>Studying Radius Inflation on Low-Mass Stars Using Gaia DR3</i> .	
	Seminar at IPAC/Caltech, October 5 2022, <i>A Unified Approach to M Dwarf Ages</i> .	
	Kavli Institute for Theoretical Physics, Probes of Transport in Stars Program, December 9 2021, <i>Through the Fully Convective Boundary: An Overview of Low-mass Stars and Brown Dwarfs</i> .	
	Berkeley online short talk, April 22 2021, <i>Age Relations for Low-Mass Stars</i> .	
	Carnegie Observatories online Lunch Talk, March 19 2021, <i>Age Relations for Low-Mass Stars</i> .	
	Center for Astrophysics’s Exoplanet Presentation Lounge online, February 23 2021, <i>Age Relations for Low-Mass Stars</i> .	
	Gemini Observatory Seminar, January 10 2020, Hilo, HI, USA. <i>Age-dating low mass stars using magnetic activity and kinematics</i> .	
	Leibniz-Institut für Astrophysik Potsdam (AIP) Seminar, July 2 2019, Potsdam, Germany. <i>Finding Age Relations for Low Mass Stars Using Magnetic Activity and Kinematics</i> .	
	Princeton University Seminar, May 23 2019, NJ, USA. <i>Finding Age Relations for Low Mass Stars Using Magnetic Activity and Kinematics</i> .	
	Invited panelist, AAS 233, 6–10 January, 2019, Seattle, Washington, USA. <i>An Open Discussion on Software</i> .	
<b>Selected Contributed Presentations</b>	Contributed talk, XVII Latin American Regional International Astronomical Union Meeting, November 27 - December 1 2023, Montevideo, Uruguay, <i>Studying Radius Inflation on Low-Mass Stars Using Gaia DR3</i> .	
	Contributed talk, American Astronomical Society Meeting #241, 8-12 January 2023, Seattle, Washington, <i>Studying Radius Inflation on Low-Mass Stars Using Gaia DR3</i> .	
	Fifty Years of the Skumanich Relations, March 08-11 2022, Boulder, Colorado USA, <i>A unified approach to M dwarf ages</i> .	
	University of Washington online Lunch Talk, March 9 2021, <i>Age Relations for Low-Mass Stars</i> .	
	Leiden Observatory online Lunch Talk, February 2 2021, <i>Age Relations for Low-Mass Stars</i> .	
	Dartmouth online Journal club, September 9 2020, <i>Age Relations for Low-Mass Stars</i> .	
	Contributed talk, TRAPPIST-1 conference, June 11–14, 2019, Liège, Belgium. <i>TRAPPIST-1 in the context of M-dwarfs re-defined by Gaia DR2</i> .	
	Contributed talk, Big Apple Magnetic Fields Conference, January 24–25, 2019, Center for Computational Astrophysics at the Flatiron Institute, NY, New York, USA. <i>Finding age relations for low mass stars using magnetic activity and kinematics</i> .	
	Poster presentation, American Astronomical Society Meeting #233, 6–10 January, 2019, Seattle, Washington, USA. <i>Finding age relations for low mass stars using magnetic activity and kinematics</i> . Kiman, R., Schmidt, S.J., Angus, R., Cruz, K.L., Faherty, J.K. & Rice, E.	
	Contributed talk, Cool Stars, July 30 to August 3, 2018, Boston-Cambridge, USA. <i>Age Dating Low Mass Stars Using Galactic Kinematics</i> .	

## Outreach Activities

### Activities in English

Public talk, Amateur Astronomers Association of New York City (AAA), *Understanding the Milky Way with Gaia*, February 13 2024, available [online](#).

Solar annular eclipse viewing from Bryce Canyon National Park, with star party at night. October 14 2023. Bryce Canyon National Park, Utah.

Astronomy on Tap talk: *The evolution of the stars*. October 11 2023. Grand Canyon Lodge, North Rim, Arizona.

Help organization and participate on International Astronomy day at Santa Barbara, together with the Santa Barbara Museum of Natural History and the Astronomical Unit. April 29 2023. Santa Barbara, California.

Participation on Pasadena School Science Fair, solar observation with H $\alpha$  telescope. April 22 2023. Pasadena, California.

Astronomy on Tap talk: *How old are stars?* February 13 2023. Pasadena, California.

Invited talk about the Lunar Eclipse for the Astronomy Girl Scouts Club, at the Santa Barbara Museum of Natural History, May 13 2022. Santa Barbara, California.

Invited talk at the Graduate Student Research Symposium, October 23 2020. City College of New York, CUNY.

Presentation at Adventures in Science Camps, January 29 2019. American Museum of Natural History, New York, USA. For children in Grades 1–5.

### Activities in Spanish

Spanish Language Stargazing Lecture: *Cuál es la edad de una estrella?* August 18 2023. CalTech, Pasadena, California.

Planetarium presentations: *Explorando el Sistema Solar*. Santa Barbara Museum of Natural History, Sundays during July 2022. Santa Barbara, California.

Public talk at *Viernes Astronómicos: Cuál es la edad de las estrellas?*, September 18 2020, Universidad Nacional Mayor de San Marcos, Lima, Perú, available [online](#).

Participation in the presentation in Spanish, September 24 2019. *Astronomía en Vivo: Historia del Universo*. American Museum of Natural History, New York, USA. Open public.

Outreach Assistant, 2014–2016. Universidad de Buenos Aires, Argentina

Presenter at the “Physics week” for high-school students, 2014-2015.

Presenter at the “Museum’s night”, 2014-2015.

Presenter at the Book Fair in Buenos Aires, May 2015.

Monthly outreach talks for high-school students about the career in Physics.