



## Job Opportunities in the Department

Lyman Spitzer, Jr. Postdoctoral Fellowship

Henry Norris Russell Fellowship

Carnegie-Princeton Fellowship

Cosmology Theory and Analysis

ISM/Star Formation Theory and Computation Position

Plasma Astrophysics/MPPC

Astrophysical Plasma Theory and Simulation

Survey Science Software

Theoretical astrophysics of protostellar-disk winds

Joint Princeton/Flatiron Postdoctoral Research Fellow in Computational Astrophysics

Theoretical and Computational Plasma Astrophysics

Weak Lensing Cosmology

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**Lyman Spitzer, Jr. Postdoctoral Fellowship**

The Department of Astrophysical Sciences at Princeton University, invites applications for the Lyman Spitzer, Jr. Postdoctoral Fellowship in Astrophysics. The Spitzer Fellow is expected to carry out original research in astrophysics, independently or in collaboration with Princeton faculty, postdoctoral researchers, and students. This opportunity is intended primarily to provide support for researchers in theoretical astrophysics, but exceptional candidates in all areas of astronomy are encouraged to apply. The fellowship includes a substantial annual research fund.

Applicants may work with the Department's distinguished faculty and research staff. For a full list of department members and activities, see <http://www.princeton.edu/astro> (<http://www.princeton.edu/astro>)

. There are also strong research groups with interests in astrophysics at the Princeton Plasma Physics Lab and in the Physics, Geosciences, and Mechanical and Aerospace Engineering Departments, and at the nearby Institute for Advanced Study. Appointments are for one year, renewable annually based on satisfactory performance, for a total of up to three years. The expected starting date is September 1, 2019, although flexibility can be accommodated. A PhD in Astronomy or a related field is required.

Interested persons should submit a curriculum vitae, bibliography, a statement of research interests, and provide contact information for three references by November 5, 2018. Applicants must apply via the web at: (<https://www.princeton.edu/acad-positions/position/8461> (<https://www.princeton.edu/acad-positions/position/8461>))

). Letters of recommendation will also be handled through this site. All applications received by November 5 will be fully considered, but applications will continue to be accepted until the position is filled. All applications will be considered for all postdoctoral positions available in the department, but you will be asked in the application process which positions are of most interest. This position is subject to the University's background check policy. Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law. For further inquiries, contact [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu) (<mailto:postapp19@astro.princeton.edu>)

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**Henry Norris Russell Fellowship**

The Department of Astrophysical Sciences, Princeton University, invites applications for the Henry Norris Russell Fellowship in Astrophysics. The Russell Fellow is expected to carry out original research in astrophysics, independently or in collaboration with Princeton faculty, postdoctoral fellows and students. The fellowship is intended primarily to support researchers in observational or experimental astrophysics, but exceptional candidates in all areas of astronomy are encouraged to apply. The fellowship includes a substantial annual research fund.

The Department is playing a major role in the Large Synoptic Survey Telescope (LSST) consortium, which is building a dedicated 8.4-meter telescope to carry out a 20,000 square degree multi-band and multi-epoch imaging survey. It is also collaborating with the National Astronomical Observatory of Japan to carry out deep, high-resolution, wide-area imaging and spectroscopic surveys to study galaxy evolution, cosmology, Milky Way structure, and planetary systems on the Subaru 8.2 meter telescope on Mauna Kea, Hawaii as part of the Hyper Suprime-Cam, Prime Focus Spectrograph and Charis surveys. We also have major initiatives searching for and characterizing extrasolar planets.

We are also using the Atacama Cosmology Telescope (ACT) to map the intensity and polarization of the Cosmic Microwave Background at a variety of frequencies, and are participating in the new Simons Observatory for CMB studies. Russell Fellows will have data rights to the Hyper Suprime-Cam Survey and the Prime Focus Spectrograph Survey on the Subaru 8.2m telescope, and the right to join ACT and the Simons Observatory. Russell Fellows will also have access to the research computing facilities managed by PICSciE and OIT. These include a variety of high-performance (petaflop) clusters with both cpus and gpus, large shared-memory systems for data analysis and visualization, and multiple petabytes of data storage.

Appointments are for one year, renewable annually based on satisfactory performance, for a total of up to three years. This position is advertised subject to funding. The expected starting date is September 1, 2019, although flexibility can be accommodated. A PhD in Astronomy or a related field is required.

Applicants should apply via the web at: (<https://www.princeton.edu/acad-positions/position/8461>  
(<https://www.princeton.edu/acad-positions/position/8461>)  
) . Letters of recommendation will also be handled through this site.

All applications received by November 5, 2018 will be fully considered, but applications will continue to be accepted until all available positions are filled. Only web submissions will be considered. All

applications will be considered for all postdoctoral positions available in the department, but you will be asked in the application which positions you are interested in.

This position is subject to the University's background check policy. Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law. For further inquiries, contact [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu) (<mailto:postapp19@astro.princeton.edu>)

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### **Carnegie-Princeton Fellowship**

The Observatories of the Carnegie Institution for Science and the Department of Astrophysical Sciences of Princeton University invite applications for a four-year postdoctoral fellowship in astronomy, to begin in September 2019. The Fellow is expected to work two years at the main offices of the Observatories in Pasadena and two years at Princeton, in an order to be negotiated with the applicant. The Carnegie-Princeton Fellow is expected to carry out original research in any area of astronomy or astrophysics, either independently or in collaboration with staff, faculty or students at the host institutions. The principal selection criteria will be outstanding research accomplishments and promise of future achievement. Preference will be given to researchers working in those areas in which Carnegie and Princeton have active research interests.

The Fellow will have access to all of the resources and facilities of both institutions. In particular: The Carnegie Institution owns and operates the Las Campanas Observatory in Chile, which includes the twin 6.5-meter Magellan telescopes, the 2.5-meter Dupont and 1.0-meter Swope telescopes. Carnegie is also a full institutional member of the Sloan Digital Sky Survey IV. Based in Pasadena, between the Jet Propulsion Laboratory and the California Institute of Technology, the Observatories provide an exceptional intellectual environment and access to resources for theorists, observers, and instrumentalists alike. The Department of Astrophysical Sciences at Princeton is a major partner in the Atacama Cosmology Telescope, the Simons Observatory, and the Large Synoptic Survey Telescope. The department is collaborating with the Japanese astronomical community on large imaging and spectroscopic surveys with the Subaru Telescope, focused on extragalactic astronomy (the Hyper Suprime-Cam survey) and planetary systems around other stars (the Charis survey). In addition, we

are heavily involved in planning for the Prime Focus Spectrograph Survey. The successful applicant will have the right to join all these surveys. Together with research groups in other departments in the university and the nearby Institute for Advanced Study, the department offers an unparalleled environment for research in theoretical and observational astrophysics and cosmology.

The fellowship provides support for observing, travel, computing and publications, and the observing and computational facilities will be accessible for the entire duration of the fellowship.

Further information on the host institutions is available at [obs.carnegiescience.edu](http://obs.carnegiescience.edu)

(<http://obs.carnegiescience.edu/>)

and [www.princeton.edu/astro](http://www.princeton.edu/astro)

(<http://www.princeton.edu/astro>)

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Applicants must send curriculum vitae, bibliography, and research plan to BOTH the Observatories and to Princeton via the web at <http://www.obs.carnegiescience.edu/fellowships/>

(<http://www.obs.carnegiescience.edu/fellowships/>)

AND (<https://www.princeton.edu/acad-positions/position/8461>

(<https://www.princeton.edu/acad-positions/position/8461>)

) by November 5, 2018. Applications on the Carnegie site should include: a cv, bibliography, a brief essay describing the applicant's current research (up to 3 pages including references), and a research proposal (up to 5 pages including references). Applications on the Princeton site should include: a cv (not to exceed 2 pages excluding publications); and a research statement to include summaries of 2-3 completed/published studies, summary of ongoing work, and summary of proposed research (not to exceed 3 pages total including text, figures and references cited), in accordance with AAS postdoctoral application guidelines. The names and contact information of three references should also be submitted through both of the online application systems. Selection of the successful candidate will be made by a joint Carnegie-Princeton committee. All applicants will automatically be considered for all postdoctoral positions in the Astrophysical Sciences department at Princeton and for the Carnegie Fellowship at The Observatories; however, they should clearly state in the cover letter that they wish to be considered for the Carnegie-Princeton Fellowship. A PhD in Astronomy or a related field is required.

This position is subject to Princeton University's background check policy. Princeton University and the Carnegie Observatories are equal opportunity employers and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, gender, sexual

orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law.

For questions or additional information, please send email to [c-pfellow@obs.carnegiescience.edu](mailto:c-pfellow@obs.carnegiescience.edu)  
(<mailto:c-pfellow@obs.carnegiescience.edu>)

and/or [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu)  
(<mailto:postapp19@astro.princeton.edu>)

. For additional information on the fellowship program at Carnegie, please visit:

<http://www.obs.carnegiescience.edu/fellowships>  
(<http://www.obs.carnegiescience.edu/fellowships>)

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## **Cosmology Theory and Analysis**

The Department of Astrophysical Sciences at Princeton University invites applications to fill a postdoctoral or more senior research position in cosmology. The postdoc will work with Jo Dunkley, David Spergel and other members of the Departments of Astrophysical Sciences and Physics on one or more of these topics: (1) cosmological analysis of data from the HyperSuprime Cam and Prime Focus Spectrograph; (2) analysis and interpretation of CMB data from the Atacama Cosmology Telescope, and preparation for the Simons Observatory; and/or (3) simulation of Galactic foregrounds for CMB analysis. Appointments are for one year, renewable annually based on satisfactory performance, for a total of up to three years. The expected starting date is September 1, 2019, though earlier starting dates can be accommodated and are not discouraged. A PhD in Astronomy or a related field is required.

Applicants must apply online and submit a CV and contact information for three references at:

(<https://www.princeton.edu/acad-positions/position/8461>  
(<https://www.princeton.edu/acad-positions/position/8461>)

). Letters of recommendation will also be handled through this site. All applications received by November 5, 2017 will be fully considered, but applications will continue to be accepted until the position(s) are filled. Only web submissions will be considered. All applications will be considered for all postdoctoral positions available in the department, but you will be asked in the application which positions you are interested in.

For further inquiries, contact [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu)  
(<mailto:postapp19@astro.princeton.edu>)

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### **ISM/Star Formation Theory and Computation Position**

The Department of Astrophysical Sciences, Princeton University, invites applications for a postdoctoral research position in theory and numerical modeling of star formation and the interstellar medium (ISM). The successful candidate(s) will work with Prof. Eve Ostriker to investigate the process of star formation and the dynamics, thermodynamics, and chemistry of the multiphase ISM in a range of galactic environments. Studies may include computational MHD and RHD modeling of GMC creation/destruction, ISM chemical cycling, and the regulation of star formation and galactic winds induced by feedback to the ISM on a range of scales.

A PhD in astrophysics or a related field and previous experience in computational hydrodynamics are required. The successful candidate will have access to state-of-the-art computational facilities, opportunities for collaboration, and support for travel. Appointments are for one year, renewable annually based on satisfactory performance and subject to funding, for a total of up to three years. The expected starting date is September 1, 2019 or earlier. Candidates should apply via the web at: (

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<https://www.princeton.edu/acad-positions/position/8461>

(<https://www.princeton.edu/acad-positions/position/8461>)

). Application materials include a curriculum vitae (including publications), research statement, and contact information for three references. All applications received by November 5, 2018 will be fully considered, but applications will continue to be accepted until the position is filled. All applications will be considered for all postdoctoral positions available in the department, but for this job, please indicate "ISM/Star Formation" in the on-line application form. For further inquiries, contact Eve Ostriker ([eco@astro.princeton.edu](mailto:eco@astro.princeton.edu)

(<mailto:eco@astro.princeton.edu>)

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This position is subject to Princeton University's background check policy. Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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### **Postdoctoral position in Plasma Astrophysics/MPPC**

The Department of Astrophysical Sciences, Princeton University, invites applications for one or more postdoctoral or more senior research associate positions as part of the Max Planck Princeton Center (MPPC), an international center in plasma astrophysics established in collaboration with the Princeton Plasma Physics Laboratory (PPPL) and several institutes of the Max-Planck Society in Germany (including the MPA and the IPP). Successful applicants will be located on campus in the Department of Astrophysical Sciences, and will work in collaboration with faculty, postdocs, and research staff at institutions within the MPPC on fundamental problems in astrophysical plasma dynamics. In particular, the core research topics of the MPPC include magnetic reconnection, energetic particle acceleration and propagation, properties of magnetohydrodynamic turbulence, dynamos and magnetic field amplification in stars and accretion disks. Astrophysics application areas for this position will include kinetic effects in solar-wind turbulence and cosmic ray/ISM interactions.

Applicants with interest and experience in theory, computation, and/or laboratory astrophysics in any of these areas are strongly encouraged to apply. This is a unique opportunity to collaborate with leading international centers for plasma physics on problems important in astrophysics, with access to world-class computing facilities and laboratory experiments. Appointments are expected to begin on or about September 1, 2019. Initial appointments are for one year, renewable annually based on satisfactory performance, for a possible total of up to three years. A PhD in Astronomy or a related field is required.

Interested persons should submit a curriculum vitae, bibliography, a statement of research interests, and provide contact information for three references by November 5, 2018. Applicants must apply via the web at: (<https://www.princeton.edu/acad-positions/position/8461> (<https://www.princeton.edu/acad-positions/position/8461>)). Letters of recommendation will also be handled through this site. All applications received by November 5 will be fully considered, but applications will continue to be accepted until the position is filled. All applications will be considered for all postdoctoral positions available in the department,



but you will be asked in the application process which positions are of most interest. For further inquiries, contact [jstone@astro.princeton.edu](mailto:jstone@astro.princeton.edu) (<mailto:jstone@astro.princeton.edu>)

. This position is subject to the University's background check policy. Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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### **Astrophysical Plasma Theory and Simulation**

The Department of Astrophysical Sciences at Princeton University, invites applications for a postdoctoral research position in astrophysical plasma theory and simulation. The successful candidate will work with Prof. Anatoly Spitkovsky on applications of particle-in-cell plasma simulation methods to astrophysical problems, including the physics of collisionless shocks, cosmic rays, pulsar magnetospheres, and modeling and design of laboratory astrophysics experiments. A strong background in high-energy astrophysics, plasma physics, computational science and parallel computing is preferred. The successful candidate will have access to state-of-the-art computational facilities, opportunities for collaboration and support for travel. Appointments are for one year, renewable annually based on satisfactory performance and subject to funding, for a total of up to three years. The expected starting date is September 1, 2019 or earlier. A PhD in Astronomy, Physics, or a related field is required.

Interested persons should submit a curriculum vitae, bibliography, a statement of research interests, and provide contact information for three references by November 5, 2018. Applicants must apply via the web at: (<https://www.princeton.edu/acad-positions/position/8461> (<https://www.princeton.edu/acad-positions/position/8461>)

). Letters of recommendation will also be handled through this site. All applications received by November 5 will be fully considered, but applications will continue to be accepted until the position is filled. All applications will be considered for all postdoctoral positions available in the department, but you will be asked in the application process which positions are of most interest. For further inquiries, contact Prof. Anatoly Spitkovsky ([anatoly@astro.princeton.edu](mailto:anatoly@astro.princeton.edu) (<mailto:anatoly@astro.princeton.edu>)

). This position is subject to the University's background check policy. Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without

regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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## **Position in Survey Science Software**

The Department of Astrophysical Sciences at Princeton University has several open positions within the Astronomical Data Group, led by Robert Lupton, Michael Strauss and Jim Gunn. The successful applicants will work on a variety of projects in survey science and software development for the reduction, analysis, interpretation, and testing of photometric and spectroscopic data from very large surveys. The expected starting date is September 1, 2019, though earlier starts can be accommodated.

The group is involved in the scientific and technical aspects of the Large Synoptic Survey Telescope (LSST) project, which is building a dedicated 8.4-meter telescope to carry out a 20,000 square degree multi-band and multi-epoch imaging survey. Princeton is responsible for the deep imaging ("data release production") portion of the LSST software which will support static-sky science and statistical studies of variability. In addition, the Department is collaborating with the National Astronomical Observatory of Japan to carry out deep, high-resolution, wide-area imaging surveys to study galaxy evolution and weak lensing with Hyper Suprime-Cam, a large-format camera on the Subaru 8.2 meter telescope on Mauna Kea, Hawaii. We are also part of a consortium building a wide-field multi-object (2394 fiber) spectrograph to be placed at the Subaru Prime Focus. Finally, we expect to play a role in WFIRST, the Wide Field Infrared Survey Telescope.

Software development and support for these projects will include work on algorithm development (e.g. the determination of point spread functions; deblending overlapping galaxies, estimating cosmic shear, optimally combining multi-epoch, multi-band datasets, and spectrophotometry with fiber spectrographs); software engineering; and scientific validation (examining the performance and scientific reliability of algorithms, visualization of high-dimension datasets, as well as unit and regression testing of complex software systems).

The ideal candidate will combine a strong research record with software development experience in Python and/or C++, and a background in optical or radio astronomy at faint levels, CCD or radio data, handling of large data sets, and/or image and spectroscopic analysis. A PhD in Astronomy, Physics, Computer Science or a related field is required.

Appointments will be made to the research or specialist staff at a level and salary commensurate with experience, for an initial period of one year, which may be extended depending on satisfactory performance. LSST development at Princeton is funded to continue for the duration of construction (through 2022) and potentially beyond.

We endeavor to preserve the Astrophysical Sciences Department's reputation as a pleasant workplace with a lively and friendly scientific atmosphere which recognizes that technical innovations are an important intellectual contribution to the science being produced by these surveys.

Applicants must apply online at: <https://www.princeton.edu/acad-positions/position/8461>  
(<https://www.princeton.edu/acad-positions/position/8461>)

. Letters of recommendation will also be handled through this site. All applications received by Nov 5, 2018 will be fully considered, but applications will continue to be accepted until the position(s) are filled. For further inquiries, contact Yusra AlSayyad ([yusra@astro.princeton.edu](mailto:yusra@astro.princeton.edu))  
(<mailto:yusra@astro.princeton.edu>) or Jim Bosch ([jbosch@astro.princeton.edu](mailto:jbosch@astro.princeton.edu))  
(<mailto:jbosch@astro.princeton.edu>).

This position is subject to the University's background check policy. Princeton University is an Equal Opportunity/Affirmative Action Employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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### **Postdoctoral research position in theoretical astrophysics of protostellar-disk winds**

The Department of Astrophysical Sciences, Princeton University, invites applications to fill a postdoctoral or more senior research position in theoretical astrophysics of protostellar-disk winds. The postdoc will work with Prof. Jeremy Goodman to extend an existing code based on Athena++ to perform magnetohydrodynamic simulations of PPD winds, predict atomic and molecular absorption lines, and compare model predictions with observations to diagnose mechanisms of accretion and outflow. Experience with multidimensional numerical simulations and code is essential. A background in star formation, astrochemistry, or radiative transfer is desirable. The position is available to start in

the fall 2018 semester and renewable for up to three years given satisfactory progress. A PhD in Astronomy or a related field is required.

Interested persons must submit a curriculum vitae, bibliography, a 3-page statement of research interests (including completed and proposed projects), and provide contact information for three references by November 5, via: (<https://www.princeton.edu/acad-positions/position/8461> (<https://www.princeton.edu/acad-positions/position/8461>)). Letters of recommendation will also be handled through this site. All applications received by November 5 will be fully considered, but applications will continue to be accepted until all positions are filled. All applications will be considered for all postdoctoral positions available in the department, but you will be asked in the application process which positions are of most interest. These positions are subject to the University's background check policy.

Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law. For further inquiries, contact [jeremy@astro.princeton.edu](mailto:jeremy@astro.princeton.edu) (<mailto:jeremy@astro.princeton.edu>)

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### **Joint Princeton/Flatiron Postdoctoral Research Fellow in Computational Astrophysics**

As part of a new initiative in theoretical and computational astrophysics, the Department of Astrophysical Sciences at Princeton University is seeking candidates for a postdoctoral or more senior research position, to be offered jointly with the Center for Computational Astrophysics (CCA) at the Simons Foundation's Flatiron Institute in New York City. The initial appointment will be for one year, with the expectation of renewal for a total of four years. The researcher may start at either institution for the first two years, followed by the other institution for the second two years, to be determined with the successful candidates. There will be frequent visits between the two institutions throughout the term of the appointment, in order to engage in collaborative research across both institutions.

A listing of department members and activities in Astrophysics at Princeton University can be found at <https://web.astro.princeton.edu/> (<https://web.astro.princeton.edu/>)

. A description of the research groups and members of the CCA can be found at

<https://www.simonsfoundation.org/flatiron/center-for-computational-astrophysics/>  
(<https://www.simonsfoundation.org/flatiron/center-for-computational-astrophysics/>)

. At Princeton, the appointment would be at the rank of Postdoctoral Research Associate or Associate Research Scholar; at the CCA, the appointment would be as a Flatiron Research Fellow; for more information see posting at

[https://simonsfoundation.wd1.myworkdayjobs.com/simonsfoundationcareers/job/162-Fifth-Avenue/Flatiron-Research-Fellow--CCA\\_R0000047-1](https://simonsfoundation.wd1.myworkdayjobs.com/simonsfoundationcareers/job/162-Fifth-Avenue/Flatiron-Research-Fellow--CCA_R0000047-1)

([https://simonsfoundation.wd1.myworkdayjobs.com/simonsfoundationcareers/job/162-Fifth-Avenue/Flatiron-Research-Fellow--CCA\\_R0000047-1](https://simonsfoundation.wd1.myworkdayjobs.com/simonsfoundationcareers/job/162-Fifth-Avenue/Flatiron-Research-Fellow--CCA_R0000047-1))

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We are seeking highly motivated individuals with research interests in any field of astrophysics. Successful candidates will have earned a Ph.D. within the last five years or expect to earn one by September 2019, and will work in computational astrophysics, developing and applying algorithms and codes for theoretical studies in astrophysics and/or for the analysis of large astronomical data sets, and working to apply these methods to obtain new scientific insights. Those selected for this role are expected to carry out research programs independently and in collaboration with Princeton and CCA scientists, and to participate in the vibrant activities of both institutions, including seminars and workshops. They will have the opportunity to mentor students, and will have access to outstanding computing facilities at both institutions as well as a budget to support research and travel.

Interested persons must submit a curriculum vitae, bibliography, a statement of research interests, and provide contact information for three references by November 5,

via: <https://www.princeton.edu/acad-positions/position/8462>

(<https://www.princeton.edu/acad-positions/position/8462>)

. Letters of recommendation will also be handled through this site. All applications received by November 5 will be fully considered, but applications will continue to be accepted until all positions are filled. These positions are subject to the University's background check policy.

Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law. For further inquiries, contact [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu)  
(<mailto:postapp19@astro.princeton.edu>)

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## **Theoretical and Computational Plasma Astrophysics**

The Department of Astrophysical Sciences at Princeton University invites applications to fill a postdoctoral or more senior position in theoretical and computational plasma astrophysics. The postdoc will work with both Prof. Matthew Kunz (Princeton) and Prof. Eliot Quataert (UC Berkeley) on a joint project concerning the multi-scale dynamics of kinetic turbulence in weakly collisional, high-beta plasmas. The initial appointment will be for one year, with the expectation of annual renewal for a total of three years. The first year will be at Princeton; in the second year, the candidate will spend time at Princeton and at Berkeley; and the third year will be at Berkeley. There will be ample travel planned between these institutions throughout the appointment. The expected starting date is January 1, 2019 at Princeton, although later starting dates can be accommodated and are not discouraged. A PhD in Physics, Astronomy, or a related field is required.

Applicants must apply online and submit a CV, a research statement, and contact information for three references at: <https://www.princeton.edu/acad-positions/position/8321>

(<https://www.princeton.edu/acad-positions/position/8321>)

. Letters of recommendation will also be handled through this site. All applications received by September 27, 2018 will be fully considered, but applications will continue to be accepted until the position is filled. Only web submissions will be considered. This position is subject to the University's background check policy. For further inquiries, contact [kunz@astro.princeton.edu](mailto:kunz@astro.princeton.edu)

(<mailto:kunz@astro.princeton.edu>)

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This position is subject to the University's background check policy. Princeton University is an Equal Opportunity/Affirmative Action Employer, and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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## **Weak Lensing Cosmology**

The Princeton University Department of Astrophysical Sciences invites applicants for one or more postdoctoral or more senior research positions in weak lensing cosmology within the Princeton Astronomical Data Group (led by Robert Lupton, Michael Strauss, and Jim Gunn). Join and grow our fast-paced group in the development and commissioning of the software pipelines for the Large Synoptic Survey Telescope (LSST) and the Hyper Suprime-Cam (HSC) instrument on the Subaru Telescope. The department currently plays a leading role in exploiting the HSC survey data, presenting opportunities to become deeply involved in the HSC weak lensing analyses. Additional instrumental efforts of the Astronomical Data Group include the 2400-fiber Prime Focus Spectrograph (PFS) for Subaru, and all members of the department will have the opportunity to join the planned PFS survey team.

The successful candidate(s) will lead the internal validation of components of the science pipelines (e.g., shear estimation, PSF estimation, deblending, coaddition) on weak lensing estimates. As a member of the LSST project team, this role will collaborate closely with other parts of the geographically distributed LSST construction team and with the LSST Dark Energy Science Collaboration. As a member of the Department of Astrophysical Sciences, this role comes with full rights to HSC survey data and an invitation to join the HSC weak lensing collaborations. An ideal candidate would have a research record in shear estimation, PSF modeling, or other image processing algorithms relevant for weak lensing on large imaging surveys, experience in software development with Python or C++, and a collaborative spirit. A Ph.D. in a related field is required.

We are seeking to recruit from as diverse a pool of talent as possible, and endeavor to preserve the Department of Astrophysical Sciences' reputation as a pleasant workplace with a lively and friendly scientific atmosphere which recognizes that technical innovations are an important intellectual contribution to the science produced by major astronomical surveys.

Applicants must apply online and submit a CV, a brief statement of research interests, and contact information for three references at <https://www.princeton.edu/acad-positions/position/7321> (<https://www.princeton.edu/acad-positions/position/7321>)

. We encourage people to apply by September 1st, 2018, but applications will continue to be accepted until the position is filled. For further inquiries, please contact Jim Bosch ([jbosch@astro.princeton.edu](mailto:jbosch@astro.princeton.edu)) (<mailto:jbosch@astro.princeton.edu>) or Yusra AlSayyad ([yusra@astro.princeton.edu](mailto:yusra@astro.princeton.edu)) (<mailto:yusra@astro.princeton.edu>).

This position is subject to the University's background check policy. Princeton University is an Equal Opportunity/Affirmative Action Employer, and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law.

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*Who do I contact if I have more questions?*

Please send an e-mail to [postapp19@astro.princeton.edu](mailto:postapp19@astro.princeton.edu)  
(<mailto:postapp18@astro.princeton.edu>)  
with any questions.





Lyman Spitzer, Jr.  
(1914-1997)