

## FACULTY

**Paul Arendt** - *Physical mathematics theory*  
**Michelle Creech-Eakman**—*IR Interferometry & instrumentation*  
**Caitano da Silva** -- *Plasma physics and atmospheric electricity*  
**Ken Eack**—*Balloon-borne lightning studies & instrumentation*  
**Harald Edens** -- *Lightning and thunderstorm electrification*  
**Zeljka Fuchs** -- *Atmospheric convection and climate*  
**Peter Hofner**—*Massive YSOs & star formation*  
**Carlos Lopez-Carrillo** — *Tropical meteorology*  
**David Meier** — *Astrochemistry & star formation in galaxies*  
**Kenneth Minschwaner**—*Atmospheric radiative transfer & instrumentation*  
**Raúl Morales-Juberías** — *Observations and modeling of Gas Giant Planets*  
**David Raymond** — *Geophysical fluid dynamics*  
**Van Romero** — *Shock physics*  
**Sharon Sessions** — *Tropical convection & organization*  
**Richard Sonnenfeld** — *Physics of lightning & instrumentation*  
**Douglas Wells** -- *Nuclear Physics Applications*  
**David Westpfahl** — *Dynamics of spiral galaxies*  
**Lisa Young** — *Galaxy evolution*



Workman Center, home of the Department of Physics

### DEPARTMENT OF PHYSICS

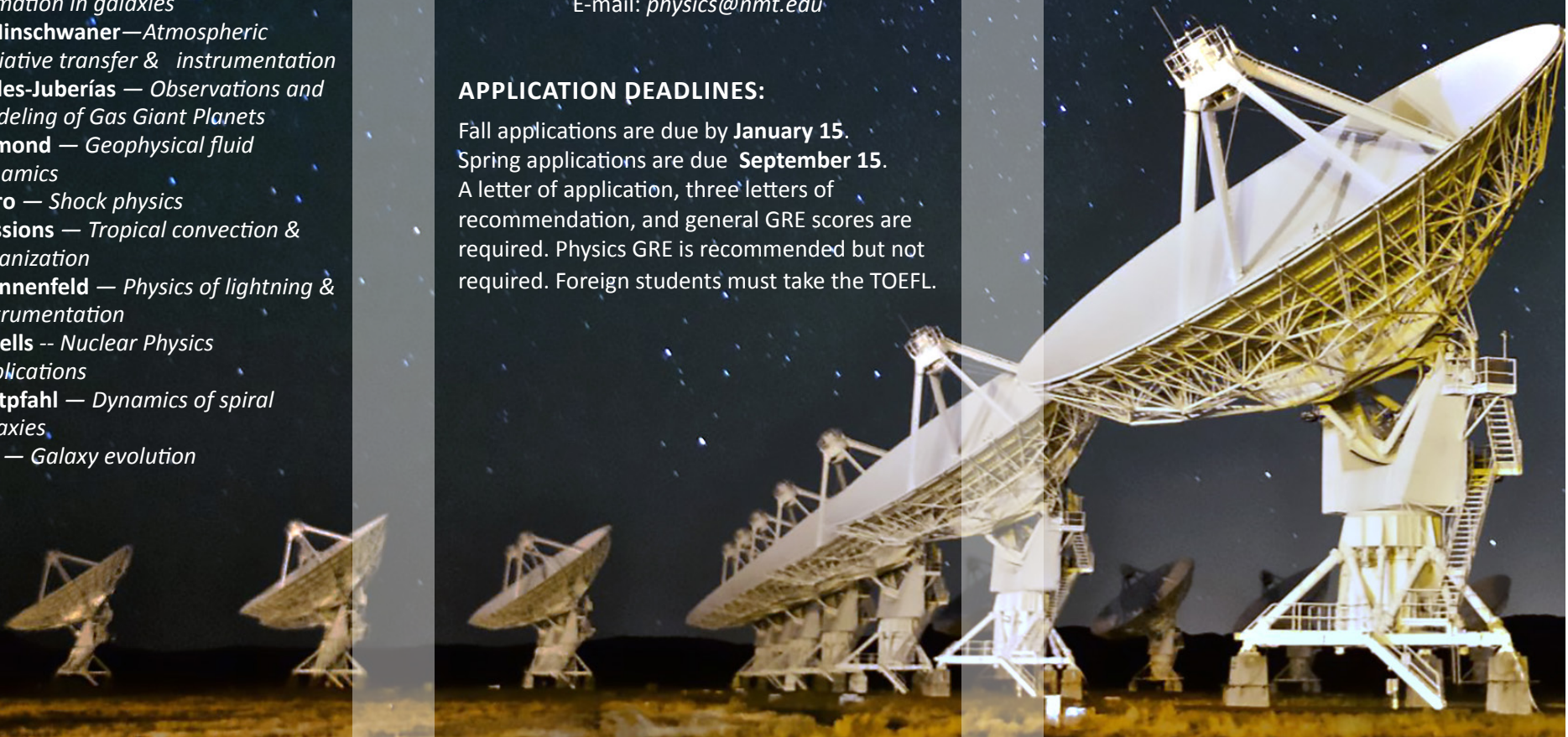
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### APPLICATION DEADLINES:

Fall applications are due by **January 15**.  
Spring applications are due **September 15**.  
A letter of application, three letters of recommendation, and general GRE scores are required. Physics GRE is recommended but not required. Foreign students must take the TOEFL.

**NEW MEXICO TECH**  
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY  
**PHYSICS GRADUATE PROGRAM**

*Get Lost in Your Research,  
Not in a Crowd*



## GRADUATE PROGRAM IN PHYSICS

Our graduate program in Physics allows students to pursue M.S. or Ph.D. degrees in Physics with specializations in Astrophysics, Atmospheric Physics, Mathematical Physics, or Instrumentation. The department supports about 25 graduate students, half of whom teach introductory physics laboratories for the required courses at this STEM university. Other graduate students are supported as research assistants with faculty mentors or on fellowships through NASA, NSF and NRAO.

Our Ph.D. graduate curriculum includes a core of Physics courses in: Math Methods, Continuum Mechanics, Advanced Dynamics, Quantum Mechanics, Electrodynamics and Statistical Mechanics. Students also take courses in their specialization areas, as well as courses in research methods, graduate communications and mathematics.

## ASTROPHYSICS



Etsorn Observatory

Students pursuing a Ph.D. with specialization in Astrophysics will choose from courses including: Stellar Physics, Extragalactic Studies, Relativity and Cosmology, Advanced Radio Astronomy and various Special Topics. Students can undertake observational or theoretical/modeling studies and often make use of NRAO VLA (the operations center is co-located with NMT), ALMA and NOAO telescopes, and space-based telescopes such as Spitzer, Herschel and CHANDRA. The campus includes a few small telescopes at the Etsorn Observatory and a ten-element optical/infrared interferometer which is under construction at the Magdalena Ridge.

## ATMOSPHERIC PHYSICS



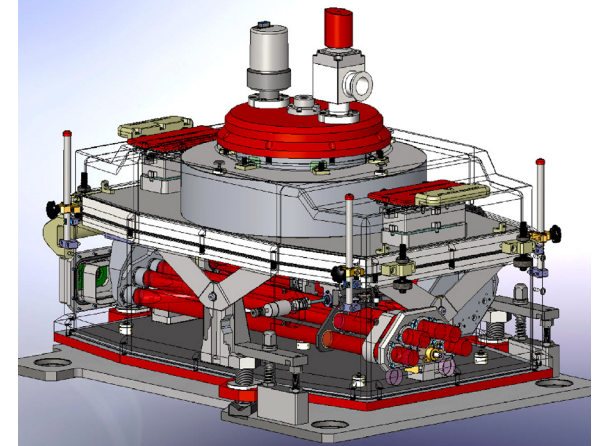
Langmuir Laboratory for Atmospheric Research

Students pursuing a Ph.D. with specialization in Atmospheric Physics will choose from courses including: Atmospheric Remote Sensing, Physics of Lightning, Atmospheric Convection and various Special Topics. Students can undertake observational or theoretical/modeling studies of lightning, atmospheric electricity, convection of tropical cyclones and atmospheric chemistry. As part of their research, the faculty and students often make use of facilities at/operated by NASA, NCAR, NOAA and an in-house Beowulf cluster. The program also deploys equipment at the Langmuir Lightning Research facility which includes a balloon-hangar, rocket launch facility and interferometric lightning-mapping arrays, located on Magdalena Ridge about one hour west of campus.



Weather instrument launch

## MATHEMATICAL PHYSICS AND



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## INSTRUMENTATION

Other specializations include mathematical physics, requiring graduate courses in the Mathematics; and Instrumentation, requiring engineering courses, especially in Electrical, Mechanical and Computer Engineering. Many students pursuing these specializations work with faculty or departmental adjuncts on topics closely related to the departments' main specializations.

Graduate students live in the dormitories, married-student housing, or Socorro apartments. Located in the high-desert, summers in Socorro are warm and the winters are temperate. Hiking, rock-climbing and mountain-biking are popular leisure activities. Albuquerque, a city of about half-a-million, is one hour north and includes all the amenities of a big city.

Graduate students are also active in the Graduate Student Association, a socio-political organization which helps to fund campus events, the yearly Student Research Symposium, and travel to conferences. Graduate students can additionally pursue certificates and minors with other departments, helping with marketability and obtaining jobs after completing their degree.

NMT Physics grads have gone on to postdocs at universities, jobs in industry and national labs, and prize fellowships in the U.S. and abroad.