



# Sidewalk Astronomy

Dennis Erickson and Danielle M. Friedland

On one August evening in 1998, science teacher Dennis Erickson took his large telescope to a busy street corner in Chicago and shared the view of the Moon with passersby. Little did he realize where this simple act would lead! He got such a favorable response that when school began, he started the Sidewalk Astronomy Club to involve his students in the experience.

The club is comprised of students at The Latin School of Chicago and several local amateur astronomers. On clear nights, members take telescopes out to the street corner and invite the public to view the wonders of the night sky. Sidewalk astronomy has become a great means for bringing together people from all walks of life—the homeless, businesspersons, and students all

gather around the telescope and discuss astronomy. For safety reasons, the telescope is always set up on a busy street corner, and several adults always accompany students.

Danielle Friedland, the current club president, sums up a typical viewing session: “The public response has been fantastic. The last time I went out to the corner, every single person who looked through the telescope exclaimed ‘Oh, wow!’ There were several instances of groups being hesitant to look through the telescope. In all those cases one or two brave souls looked and convinced the rest of the group to look, with the same result: ‘Oh, wow!’ or ‘Thanks for sharing the view!’”

Many people remarked that they could not see many stars. Due to light pollution, only the craters of the Moon, the rings of Saturn, and the moons of Jupiter can be seen clearly, even on the clearest nights. To help the public understand why this was true, we learned about light pollution and informed viewers about our findings.

## LIGHT OF NIGHT

Light pollution affects many organisms on Earth. For instance, night lighting causes trees to retain their leaves past autumn. Birds migrate out of season and sing in the artificial light of the night. Female sea turtles avoid brightly lighted beaches when they lay their eggs because the hatched turtles, instinctively heading for the perceived light of the Moon and the sea, end up wandering down streets. Even humans can be blinded by glare when driving automobiles, and pe-

destrians who are blinded by glare from streetlights are prey for criminals. Aesthetically, light pollution robs the human race of the beautiful night sky.

Club members explain the causes of light pollution to sidewalk viewers, who often want to know how they can help. Light pollution is caused by wasted light—light travel-



ing upward and to the side—from streetlights. This over-lighting wastes energy and money (more than a billion dollars a year in the United States) and creates the orange-tinted sky that many city dwellers have come to know as the night sky. There is a simple solution to this light pollution—a shade placed over streetlights so the light only goes where it is needed: down. Club members pass out information to the public about lobbying local government for laws that require shaded lights.

In the fall of 1998, the Sidewalk Astronomy Club worked with the city of Chicago to have six streetlights near the school replaced with shaded



lights. The effect is dramatic; the new lights do not send any light upward and can barely be seen from the side. This type of light, known as a full cut-off light, greatly reduces glare and waste. Because more light is reflected downward, the street and sidewalk are actually brighter than without the shade. A view of these two types of lights (shaded and unshaded) from a distance clearly illustrates how disturbing light pollution is—a picture truly is worth a thousand words!

The International Dark-Sky Association (IDA) has been working on the light pollution problem for more than 10 years. The association's website ([www.darksky.org](http://www.darksky.org)) contains photos of good and bad lighting and features examples of laws passed by various states and cities that require shaded lights. The club is a member of the IDA and represents its Chicago section.

### HIGH SCHOOL STARS

In addition to working on the light pollution issue, The Latin School of Chicago is becoming one of the leading astronomy high schools in the nation. Club members announce viewing events at school assemblies, and the issue of light pollution is taught in science classes. As evidence that astronomy awareness is increasing in the school and community, a group of students and teachers recently viewed the Leonid meteor shower, and the school now offers three astronomy courses—planetary astronomy, cosmology, and special projects in astronomy. Adult viewing sessions are offered as part of the school's Live and Learn evening school, and club members plan to spend a week at a New Mexico observatory that features charge-coupled device imaging. The school now has five faculty members with astronomy backgrounds, and club members are exploring the possibility of using one parent's farm as a dark sky observing site.

The club was awarded a \$10,000 Toyota Tapestry grant for the project: "Reducing Light Pollution through Sidewalk Astronomy."

## Students and teachers take astronomy to the streets

The grant was used to purchase a computerized telescope, a special low-light video camera, and several smaller telescopes for use at sidewalk viewing sessions and in astronomy classes. Future plans for the club include meeting with city officials to introduce and pass a light pollution law that requires all new lights to be shaded and of the proper brightness.

A club website ([sites.netscape.net/dericksondennis](http://sites.netscape.net/dericksondennis)) informs others about club activities. The site displays viewing dates, times, and places. Before and after photos of the replaced lights as well as photos of

the people and telescopes at viewing sessions are shown.

Outreach efforts have taken other directions as well. In a 30-minute appearance on a Chicago FM radio talk show, club members Danielle Friedland, David Stone, Betsy Tangora, and David Tanimura discussed the sidewalk sessions and the issues of light pollution.

This project has successfully combined science learning with positive change for the community. The public now recognizes the need to reduce light pollution, and viewers realize that there are other issues in addition to the loss of the night sky to light pollution—issues of public safety and energy savings. Club members are proud that the Latin School of Chicago is becoming known as the "astronomy school," and people appreciate seeing the wonderful views of the universe.

*Dennis Erickson (email: [derickson@latinschool.org](mailto:derickson@latinschool.org)) is a science teacher at The Latin School of Chicago, 59 W. North Avenue, Chicago, IL 60610; and Danielle M. Friedland is a sophomore at The Latin School of Chicago and president of the Sidewalk Astronomy Club.*

