



# NEWSLETTER

OF THE INTERNATIONAL DARK-SKY ASSOCIATION  
*since 1988*

December 2003, Issue #56

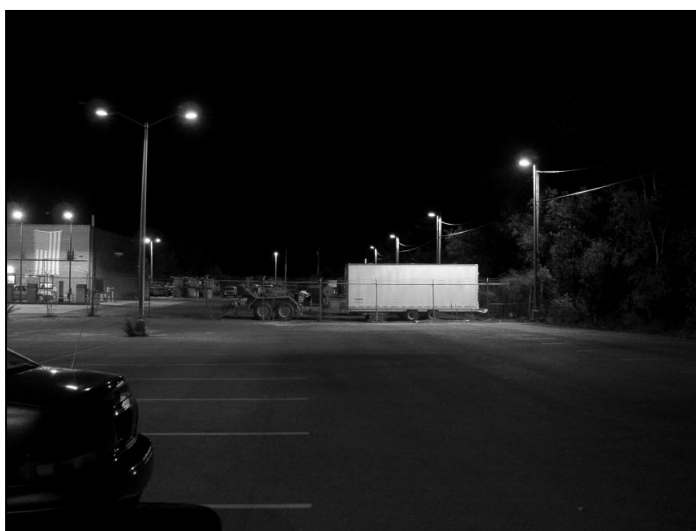
Tim Poulsen, Editor

## LIPA Works to Save the Night Sky

*The Long Island Power Authority to install only full-cutoff lights under their NightLight program. See page 3.*



**Before**



**After**

*Photos by Marco Cucci, courtesy LIPA*



**After**



**Before**

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*... to preserve and protect the nighttime environment and our heritage of dark skies ...*

# INTERNATIONAL DARK-SKY ASSOCIATION

SINCE 1988

"... TO PRESERVE THE BEAUTY OF THE NIGHTTIME ENVIRONMENT  
AND TO RESTORE OUR HERITAGE OF THE DARK SKY THROUGH QUALITY OUTDOOR LIGHTING."

Mary and I are back in Tucson after a long trip to many meetings of many sorts in many countries. I can assure you that there is an increasing interest and an increasing level of support for dark skies and good nighttime lighting.

After the International Astronomical Union (IAU) meeting in Sydney, Australia (see issue #55), I gave several talks in New Zealand, one at a joint astronomy/lighting industry meeting in the city of Auckland. Auckland has a nighttime-lighting planning document underway, and it looks to be explicitly dark-sky friendly.

Some weeks later, the IDA European meeting for 2003 was held at the Karl Zeiss Planetarium in Stuttgart, Germany. As always at IDA meetings, it featured good talks and good networking. The talks will be available soon on CD-ROM.

Then, we were off to the Ecology of the Night meeting in Muskoka, Ontario. It was a wonderful two days of talks and networking on a wide variety of topics. From there, we went to Baltimore for the annual Street and Area Lighting conference. We did some good networking and reviewed aspects of the upcoming IDA Model Outdoor Lighting Code.

Then, we were on to Montreal, Canada for several meetings with locals and the first meeting of the IDA Quebec Section. A week later, after some vacation days in Nova Scotia and several talks in Halifax, we attended the CIE USA and Canada joint meeting in Montreal.

At these meetings and elsewhere, we are expanding our horizons as much as we can given our fiscal and time resources. There is much to do. The potentials are growing faster than we can keep up with, and all of them offer very high leverage for progress in promoting dark skies and good night lighting. While we have many allies, we need your help!

Note elsewhere in this issue and on the IDA web site the fact that there are new resources appearing, information sheets, books (especially the wonderful new book by Bob Crelin and the one with the proceedings of the meeting last year in Chile.) There are also a growing number of excellent IDA CDs with papers from meetings. I urge you to obtain a copy of the relatively new CIE publication on Obtrusive Lighting and to consider the two IESNA RPs that we have available to members at relatively low cost.

Those who hear of us and our mission to stop light pollution often ask me: "Who are your supporters? How many are there? How do they support you?" I tell them that we have now over 10,000 members (most of them paying members, but a fair number lagging a lot in their dues). That is a lot by some standards, but very small relative to those who are or should be interested in wiping out light pollution and obtrusive light.

We have only a small fraction of professional and amateur astronomers who are IDA members, and much less of those interested in environmental protection (which does, of course, also include the night environment). Where are the rest?

Help us get this vast number involved, aware, and into action. The easiest actions are to join the IDA, renew every year, and to do so with (I hope) enthusiasm. The next easiest is to get your friends and colleagues to join. Who is not interested, at least in principle, in the night environment and in dark skies, especially after you talk to them about all the value to everyone of quality night lighting and of dark skies?

At the Ecology of the Night meeting, Monte Hummel, the President of the World Wildlife Fund, Canada emphasized the need for *Action, Today, by Myself*. Let me make the same appeal to you. Act, as best as you can, today! With your help, we can take advantage of the growing potentials before they slip away. Outdoor lighting is still growing; let us, together, ensure that it is healthy growth—only quality lighting and only when and where needed. We can do it. We must.

Sincerely,  
Dave Crawford

EXECUTIVE DIRECTOR  
**DAVID L. CRAWFORD, Ph.D.**

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SYDNEY, AUSTRALIA

## SECTIONS

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CZECH REPUBLIC  
FRANCE  
GERMANY  
GREECE  
IRELAND  
ITALY  
JAPAN  
MALTA  
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UNITED KINGDOM  
USA

## LIPA Says Yes to Dark Skies

Dark-sky advocates hailed the September 25<sup>th</sup> decision of the Long Island Power Authority (LIPA) to stop installing unshielded 1,000-watt dusk-to-dawn floodlights for commercial and industrial customers as part of its "Nightlight" program. Instead, LIPA ([www.lipower.org](http://www.lipower.org)) will offer the 400-watt full cutoff Mongoose luminaire from Holophane.

Beginning on that date, the Mongoose fixture will be installed for new Nightlight customers. Over time, each of the 16,000 floodlights now in use will be replaced, either as each apparatus fails or when the business leasing them changes hands.

On October 21<sup>st</sup>, LIPA announced the first installation of Mongoose fixtures at its Bridgehampton yard. The facility's nighttime lighting had been the source of many complaints due to its brightness and glare. The pictures on the cover of this issue illustrate the reduction in glare and trespass thanks to the new lights.



*Holophane's Mongoose luminaire.  
Courtesy Holophane*

In another nod to the dark-skies effort, LIPA will also be adding educational material regarding sensible outdoor lighting practices to its web site. Robert Kessel, LIPA's Chairman, admitted that while the utility previously viewed nighttime lighting only in

terms of its revenue stream, he now agrees that steps to reduce sky glow are an investment in the community's future.

SELENE, the IDA's New York State affiliate, saluted LIPA management for responding to public concerns, and for recognizing the need to change the Nightlight program to reduce light pollution and improve the nighttime environment.

## Springfield Prison Lighting

*by Bob Gent*

IDA Board Members Nancy Clanton and Bob Gent as well as past-Springfield Telescope Makers President, Maryann Arrien recently attended the grand opening and ribbon cutting for the Southern Vermont Correctional Facility. It was a big event with large TV vans and many news reporters. The Governor of Vermont spoke, as did many elected officials. This was Vermont's largest state funded project, totaling nearly \$60 million when all supporting construction was included.

The prison was built only a few miles from a National Historic site dedicated to the observatories of Stellafane. Based on other prisons that had been built with harmful lighting across the USA, there was deep concern.

The state hired Clanton & Associates to design the lighting. The bottom line is that the lighting is the highest quality. The

parking lots and all outdoor facilities feature fully shielded lights at low illumination levels. This design controls glare and improves visibility and safety. In addition, the sky glow is negligible—an impressive achievement!

In addition, the state of Vermont is paying to replace some of the bad, high-glare lighting around Springfield with better lighting. The Vermont engineers and architects, especially Mike Kuhn and David Burley, moved ahead with a state-of-the-art design geared for maximum protection of the nighttime environment.

The Astronomical League council and the Springfield Telescope Makers also provided support for this project. This proves that even a difficult light pollution problem can have a good solution and a happy ending.

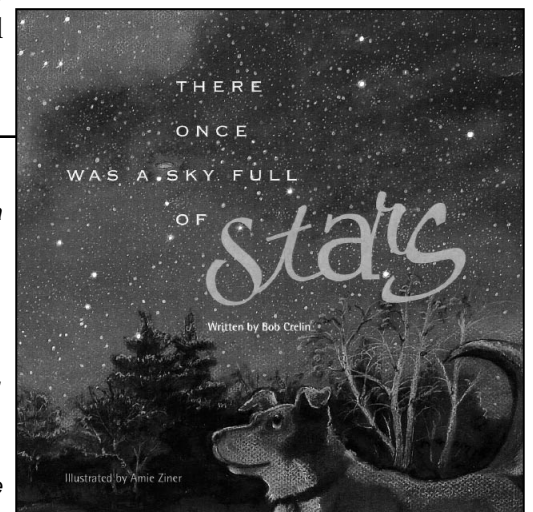
## Discovery Channel's Young Scientist Challenge Winner

Jacob Rucker, age 13, of Del Mar, CA is a winner in the Discovery Channel's Young Scientist Challenge 2003 contest. Jacob's entry was titled "Quantifying the Effect Of Skyglow on the Visibility Of Stars."

Six thousand students in grades 5 through 8 are nominated for this contest by their local science fair directors. From forty finalists, three top winners are chosen, plus an additional twelve special awards are given. Jacob won two of the special awards this year.

To prepare his entry, Jacob took 120 photos of the zenith on nights of similar weather and moonlight conditions at 30, 60, 75, and 124 kilometers from the urban center of San Diego County. He developed and scanned the photos. Then, using a program he wrote, he graphed and compared pixel intensities to determine sky brightness and correlated the brightness as a distance from the urban center.

Jacob's conclusion was that the observable light from stars remains below 50 percent until



*Bob Crelin's first children's book, "There Once Was a Sky Full of Stars" (\$12.95 from Sky Publishing) is now available. With beautiful illustrations by Amie Ziner, this unique and lyrical bedtime story introduces children (and parents) to the magic of the starry night skies, the dilemma of light pollution and how we can all fix it. A portion of the proceeds from each copy sold go to the IDA. Visit <http://SkyandTelescope.com/SkyFullOfStars> for information or to order the book.*

nearly 35 km from the urban center. Visibility doesn't improve to 90% until more than 70 km away.

Jacob won the Discovery Kids TV Star Award by demonstrating the best use of visual, written and oral communication skills. For this prize, he wins a walk-on role in "Strange Days at Holsey High," a Saturday morning Discovery Kids show. Jacob also won the Discovery Channel Team Award, which was awarded to the team that exemplified good teamwork, excellent communication skills, cooperation, and the ability to quickly develop effective problem solving strategies.

## 3rd European Symposium for Protection of the Night Sky

*by Bob Gent*

The 3<sup>rd</sup> European Symposium on the Protection of the Night Sky was held in Germany at the Planetarium of Stuttgart, Kepler-Saal. Professor Hans-Ulrich Keller, Director of the Planetarium, was the host.

The program included internationally acclaimed specialists in protecting the nighttime environment. Speakers included Dr. David Crawford, Mr. Gent, Dr. Haenel, Dr. Wuchterl, Dr. Kerschbaum, Dr. Posch, Dr. Eienebeis, Mr. Mizon, Mr. Heck, and other leaders across Europe.

Participants traveled from France, Germany, Austria, the United Kingdom, Switzerland, Belgium, the Netherlands, and the USA. Recently there has been much progress as the general public becomes aware of the problems and solutions of light pollution. Last year, the Parliament of the Czech Republic passed the first national law to control light pollution, and more recently, the Hungarian National Railways won an International Lighting Award for energy conservation and glare reduction for converting 16,000 lights to fully shielded at 500 rail stations. These actions and other international projects were discussed at this symposium.

The attendees signed a unanimous "Declaration of Stuttgart." This declaration requested that all European governments and the European Union take immediate action to control light pollution. These actions should include educational campaigns, new legislation, and support of research.

## IDA Award Nominations Due

Each year, the IDA presents awards in a number of categories to those who have demonstrated a commitment to the IDA and its philosophies. These awards are presented at the IDA annual meeting, held in Tucson each March.

The IDA offers these awards:

- International Award for a quality lighting design and installation, given to the designer and the owner and/or manager of a facility.
- Regional Awards for up to three regional or local lighting designs. Nominees for this award will also be considered for the international award.

- Hoag/Robinson Award, given approximately once a year to an individual who has been particularly effective in educating governmental organizations, businesses, and the public about the value of Outdoor Lighting Control Ordinances.
- Executive Director Special Awards, given to individuals or organizations who have been particularly helpful either to the IDA directly or to our mission of preserving and protecting our dark night skies.
- The George and Edythe Taylor Student Award, given in honor of George and Edythe Taylor, a lighting engineer and the 54th President (1958-59) of Illuminating Engineering Society of North America (IESNA). The award encourages students to explore the worldwide problem of light pollution through science, technology, society, and the environment.

Visit [www.darksky.org/aboutida/awards.html](http://www.darksky.org/aboutida/awards.html) for information about the IDA awards, how to nominate someone for an award, and a list of recent recipients.

## New Sections

Please join us in welcoming these new IDA Sections.

### IDA Los Angeles, CA

Teri Jackson LC  
19542 Shadow Springs Way  
Northridge, CA 91326, USA  
818-366-9783, 818-366-9561 (fax)  
[LosAngeles\\_IDA@earthlink.net](mailto:LosAngeles_IDA@earthlink.net)

### IDA Marin County, CA

Philip Rice  
54 Winship Avenue  
San Anselmo, CA 94960, USA  
[price@circlelimit.com](mailto:price@circlelimit.com)  
415-454-6210

### IDA Middle Tennessee

Powell Hall  
4343 Lebanon Pike 1618  
Hermitage, TN 37076, USA  
615-872-0162  
[powell.hall@worldnet.att.net](mailto:powell.hall@worldnet.att.net)

### IDA Quebec Canada

Rémi Lacasse  
Président, Fédération Des Astronomes Amateurs Du Québec  
4545, av. Pierre-De Coubertin  
C.P. 1000, Succursale M  
Montréal (Québec) H1V 3R2  
[rmi.lacasse@sympatico.ca](mailto:rmi.lacasse@sympatico.ca)

### IDA Ireland

Ireland's Light Pollution Awareness Campaign (ILPAC)  
Albert White  
1 Burmah Close  
Dalkey, Dublin, IRELAND  
+353 1 8199794  
[albert.white@sun.com](mailto:albert.white@sun.com)

## **IDA Patagonia Representative (Argentina)**

María Victoria Canullo  
Puerto Madryn, Argentina  
capat@magicpenny.org

## **Lux Pacifica Symposium**

*Reg. R. Wilson, IDA Asia/Pacific Representative.*

I had the opportunity to introduce a large contingent of key decision-makers and educators in China to the IDA by participating in the Expert International Symposium on City Lighting—City Lighting for Tourism. This conference, organized by Lux Pacifica, the International Commission on Illumination (CIE), and the China Illuminating Engineering Society, was held in the city of Hangzhou, People's Republic of China (PRC).

The Symposium consisted of 21 papers presented by speakers from the USA, Australia, Singapore, Thailand, Taiwan, and the PRC. As a representative of the IDA, I presented a paper devoted to light pollution.

The subjects ranged from major urban lighting projects (existing and proposed), road lighting, lamp performance and luminaire application, photometry instruments, and light pollution. Interestingly, many presenters mentioned light pollution (one in some detail!) in their papers. The discussions showed considerable enthusiasm and understanding that this subject that must be followed with action.

## **16<sup>th</sup> IDA Annual Meeting & Conference**

***March 10-13, 2004***

***Marriott University Park Hotel, Tucson, AZ, USA***

You are invited the 16<sup>th</sup> IDA Annual Meeting. The Annual Meeting is a great place to meet experts from all over the world. Learn about good lighting through the many presentations and poster papers to be featured at the conference. Explore exhibits from lighting companies and sponsors. Examine quality lighting fixtures and talk with company representatives.

Registration is \$80/person before February 3, 2004, \$100 after that date. The banquet is \$45. Additional meals are not included. Not yet an IDA member? You can take advantage of the special, new-member early registration combo! Join the IDA before February 3<sup>rd</sup> and register for the conference for just \$100. That price includes your one-year membership and meeting registration, banquet not included.

Please note the new location—the Marriott University Park Hotel is adjacent to the University of Arizona and should offer us an excellent venue for our meeting.

March is “peak” season for Tucson, so reserve your room soon. Make sure to ask for the IDA room rate, which is single or double, \$119 per night plus \$15 per extra person.

For more information or for registration forms, visit the IDA web site or contact the office.

## Stateside News

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### Southern Arizona Dark Skies CD

The Southern Arizona IDA section has produced a narrated photo story, which they are distributing for free from their web site, [www.sa-ida.org](http://www.sa-ida.org). The "Dark Skies" animation consists of 90 narrated photos (16 minutes) describing the concerns and problems of light pollution. For information on how you can create your own photo story or to obtain a CD-ROM copy, email [info@sa-ida.org](mailto:info@sa-ida.org).

Joe Frannea, [dark-skies@earthlink.net](mailto:dark-skies@earthlink.net)

### San Bernardino County CA Section

We are proud to announce that a new Outdoor Lighting Ordinance became effective for the unincorporated areas of San Bernardino County on October 23, 2003. This success is thanks to the coordinated efforts of IDA members and County staff, along with the support of amateur astronomers and concerned citizens. To access the Ordinance, go to [www.sbcounty.gov/landuseservices](http://www.sbcounty.gov/landuseservices), click on Development Code, then click on Amendment of Oct 23, 2003. The pertinent amendments begin on page 26. Or you may contact me at the address below.

Laverne Booth, Section Coordinator, [ljbooth2@earthlink.net](mailto:ljbooth2@earthlink.net)

### Connecticut

Page 10 of the September IDA Newsletter refers to two new Connecticut laws. Unfortunately, after that issue went to press, the Governor vetoed HB 5165—the one requiring shielding of all lights located at state owned or operated facilities. Visit [www.ct.gov/governor/cwp/view.asp?A=1326&Q=257708](http://www.ct.gov/governor/cwp/view.asp?A=1326&Q=257708) to read his veto message.

Leo Smith, [Leo@smith.net](mailto:Leo@smith.net)

### New Jersey

Two New Jersey municipalities, Edison Township and Union Township, recently adopted outdoor lighting ordinances. Edison is a heavily populated suburban township in Middlesex County. Union Township is a rural municipality in Hunterdon County. Both ordinances require cutoff fixtures and use IES illuminance/luminance recommendations.

David Nelson, [nelsouellet@netzero.net](mailto:nelsouellet@netzero.net)

### New Mexico

In 1999, the New Mexico Heritage Preservation Alliance included the Night Sky on its Most Endangered Places list and partnered with other organizations and individuals to pass the New Mexico Night Sky Protection Act. In July of this year, the Alliance announced the creation of the Night Sky Office. Robin Martin, a prominent advocate for protection of New Mexico's night sky, made establishment of the office possible through a generous grant.

The Night Sky Office will initiate action on issues concerning light pollution and New Mexico's night sky, will establish educational, legislative, informational and outreach efforts to reverse light pollution in the State, and will promote pristine night skies. (One such planned action is an upcoming mail-

ing of information to the State's electrical contractors.) Additionally, the office will act as a clearinghouse for counties, municipalities, homeowners' associations, and other entities that have existing light regulations or ordinances or are looking for resources to develop such regulations. A section dedicated to the Night Sky Office will be added to NMHPA's web site ([www.nmheritage.org](http://www.nmheritage.org)). For further information, contact Sheila Sullivan, Director, Night Sky Office, 505-466-0085.

Additionally, Governor Bill Richardson proclaimed the night of August 27<sup>th</sup>, 2003 as the second annual "New Mexico Dark Sky Appreciation Night." He invited New Mexicans to "go outside and enjoy the blessings of an unspoiled night sky."

David Penasa, [dpenasa@unm.edu](mailto:dpenasa@unm.edu)

### Texas IDA

The Texas Astronomical Society of Dallas (TAS) presented the "Night Sky Preservation Award" to the City of Atoka, Oklahoma. Atoka has installed full-cutoff antique-style Promenade PRMS luminaires in their downtown business district renovation project. The credit for this award goes to TAS whose dark-sky observing site is nearby. We recommend that more astronomical societies consider appointing a Light Pollution Awareness chairperson to work toward educating club members and the public about how to reduce light pollution.

Julie Schaar, [www.TexasIDA.org](http://www.TexasIDA.org)

## Worldwide News

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### Eighth Annual Night of Darkness, Belgium

On November 8<sup>th</sup>, 164 municipalities across Belgium participated in the "Night of Darkness" by switching off part of their outdoor lighting. Most of these communities turned off monument lighting, but a few turned off selected streetlights. The community of Merelbeke switched off everything.

At the same time, 51 local activities were held around the Flanders region, drawing an estimated 15,000 participants. These activities included star gazing parties, nature walks, and more. The total lunar eclipse that coincided with these events meant that even Nature was accommodating by switching off its biggest nightlight!

Friedel Pas, [Friedel.Pas@BVPpartners.be](mailto:Friedel.Pas@BVPpartners.be)

### Another law requires fully shielded lighting in Italy

In September, the region of Emilia-Romagna enacted a new law against light pollution. Emilia-Romagna is the third largest region in Italy based on Gross Domestic Product (GDP) per inhabitant. This measure follows those already adopted in the Lombardy and Marche regions.

This new law requires fully shielded fixtures with a maximum of 0 candela per 1000 lumens (0cd/klm) at 90 degrees and above using HPS or LPS lamps. Luminance levels cannot be greater than the levels proscribed by applicable security rules, if any. Furthermore, lights must be dimmed by more than 30% at curfew if security allows. Existing installations in sensitive areas or with high environmental impact must be updated to meet the new requirements.

With the addition of this new law, two thirds of the population in Italy now lives in regions where a law against light pollution is enforced. All of the main cities—Milan, Rome, Venice, Bologna, Florence, and Naples—are subject to such a law. In fact, one fourth of population in Italy lives in regions where 0cd/klm at 90 degrees and above is required for any new lighting installation. Furthermore, updates of less effective laws are in progress.

#### **A laboratory to study light pollution in Italy**

A Laboratory of Photometry and Radiometry of Light Pollution (LPLAB) has been set up in Italy to provide instruments and calibration services to the Light Pollution Science and Technology Institute (ISTIL). This new lab will support the non-profit Institute's scientific and technological research on light pollution and related environmental effects. LPLAB is probably the first laboratory created specifically and exclusively to study light pollution.

Photometric and radiometric calibration services are provided by the laboratory to ensure that instruments are accurate and NIST traceable. LPLAB collaborates with IDA and shares the same director of its Italian Section (Dr. P. Cinzano). Visit [www.lplab.it](http://www.lplab.it) for more information.

Pierantonio Cinzano, [cinzano@lightpollution.it](mailto:cinzano@lightpollution.it)

#### **UK Parliamentary Select Committee Report**

In October, the House of Commons Science and Technology Committee released a light pollution report. It is all that we had hoped for. Our thanks to the IDA for help and input.

The Committee strongly criticized major government departments for a confused and apathetic response to the many years of hard campaigning by astronomers and environmentalists. They called for a much higher profile for the problem on the British governmental agenda.

Select Committee reports do not automatically change things. Thankfully, though, it provides powerful ammunition for those of us working for positive change.

Visit [www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmsctech/747/747.pdf](http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmsctech/747/747.pdf) to view the full report.

Bob Mizon, <http://www.mizar-astro.freemove.co.uk/mailemail.htm>  
Coordinator, British Astronomical Association Campaign for Dark Skies

#### **IDA Sale—A Great Book**

The IDA has reduced the price of Bob Mizon's new book, *Light Pollution: Responses and Remedies*. This book is now available for a short time for only \$25 (USA). This is far below the publisher's price of \$38. This is a wonderful opportunity to add a valuable resource to your libraries. To order, contact the IDA main office, 1-520-293-3198 or [ida@darksky.org](mailto:ida@darksky.org).

#### **New Individual Lifetime Members**

Patrick C. Crane, Waldorf, MD  
Thomas Davis, Fairfield, CT  
Robert A. Gorkin, M.D., Dover, DE  
Jon A. Kolb, Colorado Springs, CO  
Greg Glasscock, Auburn, AL  
Robert Preston, Allison Park, PA  
Richard Bentley, San Diego, CA

#### **Organizational Lifetime Members**

Baymark Construction, Virginia Beach, VA  
Lumec, Inc., Quebec, Canada  
Osram Sylvania Inc, Danvers, MA  
Sylvania Lighting Australasia PTY Ltd., Gosford, Australia

Plus 10,308 members from 70 countries, including 189 lifetime, 32 Organizational Lifetime, and 533 Organizational members. Membership is open to everyone interested in preserving and protecting our nighttime environment. The IDA's Federal ID number is 74-2493011.

#### **Donation**

Thanks to Deborah Gouailhardou, who sent in \$100 in memory of John Hewitt, whose passion for astronomy she remembers wherever she looks at the night sky.

#### **Newsletter Information**

The Newsletter of the International Dark-Sky Association is published quarterly.

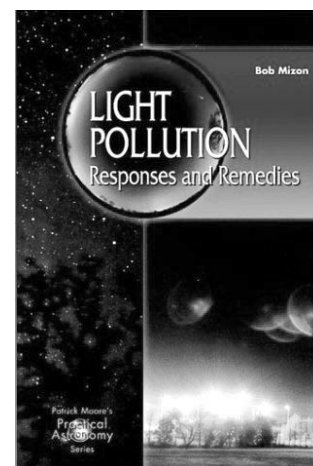
The deadline for the next issue is **February 5, 2004**.

Send postal or email address corrections to [ida@darksky.org](mailto:ida@darksky.org).  
Send article submissions to [poulsen@netacc.net](mailto:poulsen@netacc.net) or Tim Poulsen, 22 Fourth Ave, Fairport, NY 14450-2118.

#### **Meetings in 2004**

Mar 10-13 .... IDA Annual Meeting, Tucson, AZ, USA  
Mar 29 - Apr 2 Lightfair, Las Vegas, NV, USA  
[www.lightfair.com](http://www.lightfair.com)

For more information visit the IDA web site at [www.darksky.org](http://www.darksky.org) or contact the IDA office.



# INTERNATIONAL DARK-SKY ASSOCIATION

NL56

## *NEW MEMBERSHIP, GIFT MEMBERSHIP, OR RENEWAL APPLICATION*

	Member	Sponsor	Supporter	Angel	Patron	Lifetime
<b>Individual</b>	<b>\$30</b>	<b>\$50</b>	<b>\$100</b>	<b>\$250</b>	<b>\$500</b>	<b>\$1,000</b>
<b>Family</b>	<b>\$50</b>	<b>\$80</b>	<b>\$175</b>	<b>\$440</b>	<b>\$875</b>	<b>\$1,750</b>
<b>Organization</b>	<b>\$100</b>	<b>\$200</b>	<b>\$500</b>	<b>\$1,000</b>	<b>\$2,000</b>	<b>\$3,000</b>

All prices in USA funds; Canadian funds, add 50%. Government and utility company memberships are \$200. Student and retiree memberships are \$15. Small astronomy club memberships (less than 100 members) are \$50. Library memberships are \$50. Please make checks payable in USA dollars to IDA, 3225 North First Ave., Tucson, AZ 85719-2103, USA.

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_ Country \_\_\_\_\_

E-mail address \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

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Expiration Date \_\_\_\_\_ Signature \_\_\_\_\_

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Area of Interest: Astronomer, Lighting Professional, Educator, other \_\_\_\_\_

**Thank you for your renewal or new membership! We greatly appreciate your support.**

**International Dark-Sky Association**  
**3225 North First Avenue**  
**Tucson, AZ 85719-2103**  
**USA**

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