



International Workshop
on LIGHT POLLUTION



CONCLUSIONS

International Workshop on Light Pollution
Atacama Desert Museum, Antofagasta. August 2-4, 2010

The participants of the International Workshop on Light Pollution held between February and August 4, 2010, meeting in Antofagasta, Chile, together with representatives of ESO (European Southern Observatory), Municipality of Antofagasta, OPCC (Office for the Protection of the Quality of the Skies of Northern Chile), OTPC (Sky Quality Protection Technical Office, Instituto de Astrofísica de Canarias - IAC), StarLight Initiative (in partnership with UNESCO-MaB), AURA (Association of Universities for Research in Astronomy), CARSO (Carnegie Institution of Washington), University of Hawaii, CieloBuio, ISTIL (Light Pollution Science and Technology Institute, Italy), IDA (International Dark Sky Association) Institute of Astronomy, Universidad Católica del Norte, ILAV (Light, Environment and Vision Research Institute), AURA, and the National Astronomical Observatory (University of Chile),

Recalling the resolutions and recommendations of the First International Conference on Light Pollution (La Serena, 2003) and of XXXVI Symposium of Spanish Committee of Illumination;

Taking into account the resolution 7 of the Starlight International Declaration (La Palma, 2007) which says: "Public administrations, the lighting industry, and decision-

makers should also ensure that all users of artificial light do so responsibly as part of an integral part of planning and energy sustainability policies, which should be supported by light pollution measuring, both from the ground and from space.";

Recognizing the guidelines set forth during the International Year of Astronomy (IYA 2009 - IAU-UNESCO) regarding the need for dark skies for the development of astronomy, and their importance for nature conservation highlighted in this International Year of Biodiversity (2010);

Given the need to act consistently to defend the quality of the night skies as a most important scientific, cultural, environmental and tourist resource;

AGREE:

1 To support the development of laws, ordinances and regulations on light pollution control and efficient use of energy, taking into account their implications on people's quality of life, their impact on climate change, and the requirements related to biodiversity conservation. In particular, supporting the process of revision of the Chilean Emission Standard for Light Pollution Control is considered a primary strategic objective. Special attention will also be given to the development of standards and simple certifications viable for small communities and municipa-



lities that do not have the necessary technical and administrative means, and to the inclusion of outdoor lighting requirements in the planning of new settlements.

2 To support the process aimed to give the highest international recognition to those exceptional sites for astronomical observation and generation of science called “Windows to the Universe” in Hawaii, northern Chile, Canary Islands, and South Africa. These sites were included as reference cases in the “Astronomy and World Heritage” Thematic Study adopted on August 3rd, 2010 at the 34th Session of the World Heritage Committee (Brasilia, 2010), redoubling the efforts to consolidate intelligent and non-polluting lighting systems in their areas of influence. To this end, a mechanism for coordination and exchange of expertise between the various technical offices and scientific institutions involved will be promoted in order to guarantee permanently the astronomical quality of the sky in these places.

3 To support completion and funding of the II World Atlas of the Artificial Night Sky Brightness, given its importance for the necessary control and knowledge of this phenomenon, with special emphasis on advanced astronomical observation sites and sensitive natural areas. This Atlas would

also be useful to define new scenarios and future objectives regarding the reduction of light pollution.

4 To adopt and promote the Practical Guide to Outdoor Lighting (Efficient Lighting and Control of Light Pollution), developed by the Offices for the Protection of the Quality of the Skies of Northern Chile the Canary Islands (OTPC-OPCC) as an informative and educational tool targeted to the general public and to technicians and decision-makers in the lighting industry, to incorporate the new responsible outdoor lighting requirements into the several components: type of outdoor lighting, luminaires and projectors, lamps, design of installations, adaptation to the needs, recommended times and prevention of impacts on environment and human health. The Offices for the Protection of Sky Quality will send a draft Guide to the IDA (International Dark Sky Association) for review and adaptation in English, as well as to the CIE (International Commission on Illumination) for its adoption and recognition. The Guide will also be forwarded to the Urban Futures Programme (UNESCO-MaB, SCOPE) for its acceptance and international dissemination as a reference document.



5 To recognize and embrace the proposal by the Chilean authorities and the municipality of Antofagasta aimed to preserve the quality of the night sky as a resource for astro-tourism or star-tourism development, implementing the precautionary measures for their safeguarding, and developing tools for the management, agreement, and certification of areas suitable to become Starlight astro-tourist destinations.

6 To support and promote research works related to the effect of artificial lighting on human health and biodiversity conservation (wildlife and ecosystems). In particular, a proposal is made to recognize the work of the “Dark Skies IUCN Advisory Group” and the Bio-

diversity at Night project (Starlight-UNESCO), and to include a Chilean representative in these working groups.

7 To warn locally, nationally, and internationally on the harmful effects of the strong blue component of some lamps such as those using mercury alloys (mercury vapor, metal halide, induction) and of the cool-colored solid-state lighting (LED), which emit significantly at wavelengths below 500 nm. These emissions are especially harmful if not corrected with filters or other devices, since that part of the light spectrum is characterized by a greater dispersion in the atmosphere (glare), and it also increases negative effects on biodiversity and human health.

