MONT-MÉGANTIC INTERNATIONAL DARK SKY RESERVE

ISSUE: Focus on culture and heritage
ITINERARY 3C
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Location: ASTROLab - Parc national du Mont-Mégantic

PROMOTERS

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Presentation of the issue:
The adverse effects of light pollution are steadily increasing. These impacts are diverse: astronomy, economy, security, environment, health, esthetics, heritage.

While the International Dark-Sky Reserve of Mont-Mégantic (RICEMM) managed to mobilize the community and reduce the sources of pollution, the dark-sky faces new threats: the propensity to illuminate regardless of the environment, the selling of cheap lighting disrespectful of the dark-sky, the difficulties inherent to the application of the regulations, and the influx of white LED lighting.

Presentation of the project:
The light pollution abatement project was created in 2003. The ASTROLab Corporation is mandated to refer the issue, an action plan is developed in a spirit of cooperation. The project focus is on: awareness, regulations, conversion, measurement of results. RICEMM, the first dark-sky reserve recognized by the International Dark-Sky Association (IDA), was created in 2007. The latter extends over an area of 5 500 km^2 and allowed a 35% reduction of light pollution.

A new threat to the dark-sky: white LEDs contain a high proportion of blue waves, much more diffused in the atmosphere (four times more light pollution).

To meet the new challenges, new tools are introduced: a new action plan with dedicated resources, three dark-sky preservation committees, a strategic partnership with Cégep de Sherbrooke and Pic du Midi.
The four(4) main priorities of this new plan are:

- realization of the reserve on the territory;
- revision of the regulations to cope with the influx of white LEDs;
- compliance with regulations;
- distribution of friendly lighting (Philips Lumec and Ledtech).

The key elements to remember according to the promoters:
Good lighting considers the following four elements: color, intensity, time, orientation.

RESEARCHER

Martin Aubé, Cégep de Sherbrooke | E-mail: martin.aube@cegepsherbrooke.qc.ca

Summary of the researcher's presentation:
Mr. Aubé's research focuses on light pollution and citizen engagement.

Through the research conducted by Mr. Aubé, Cégep de Sherbrooke focuses on the following elements related to light pollution:

- measuring the light pollution;
- developing a model of light pollution (ILLUMINA);
- developing a better understanding of the lighting color and its consequences.

The researcher developed three spectral indices to better characterize the impacts of the lighting colors: melatonin, photosynthesis, dark-sky.

The benefits of the research are particularly felt by the application of three indices for lighting regulations and the participation in the technological evolution of LED lighting.

The key elements to remember according to the researcher:
The use of three defined indices to characterize the lighting would help guide individuals in their purchases according to their needs, and limit the negative impacts of various lighting systems.

QUESTION PERIOD

Q.: Are the dawn simulators desirable?
A. (Martin Aubé): Yes, using blue light to wake up in the morning can help in the secretion of melatonin.

Q.: For the aging population, could there be difficulties in limiting their exposure to blue light in the evening, knowing that it allows them to see better when reading?
A. (Martin Aubé): This issue is less important for the elderly, because as people get older, their melatonin secretion cycle is less affected by blue light, unlike young people.

ADDITIONAL DOCUMENTATION

NOTE: All linked documents (PowerPoint, Prezi, etc.) are only available in their original French version.

Prezi from Martin Aubé