Optical Society awards prize to Tec researcher

In the journal "**Optical Materials Express**" (OMEx), the **Optical Society** (OSA) has recognized **Tec** and **MIT** researcher **Luis Marcelo Lozano** with a prize for the **best paper published** by an emerging researcher in 2019.

The **OSA** announced that a committee of editors from the **OMEx** journal, chaired by **MIT** researcher **Juejun Hu,** was in charge of selecting the winning article, based on **the importance and scientific quality of the research**, as well as presentation of results.

The paper in question was "***Optical engineering of polymer materials and composites for simultaneous color and thermal management***".

In a press release, the journal stated that the selection committee was *"particularly **impressed** by the **thoroughness** and depth of the work"*.


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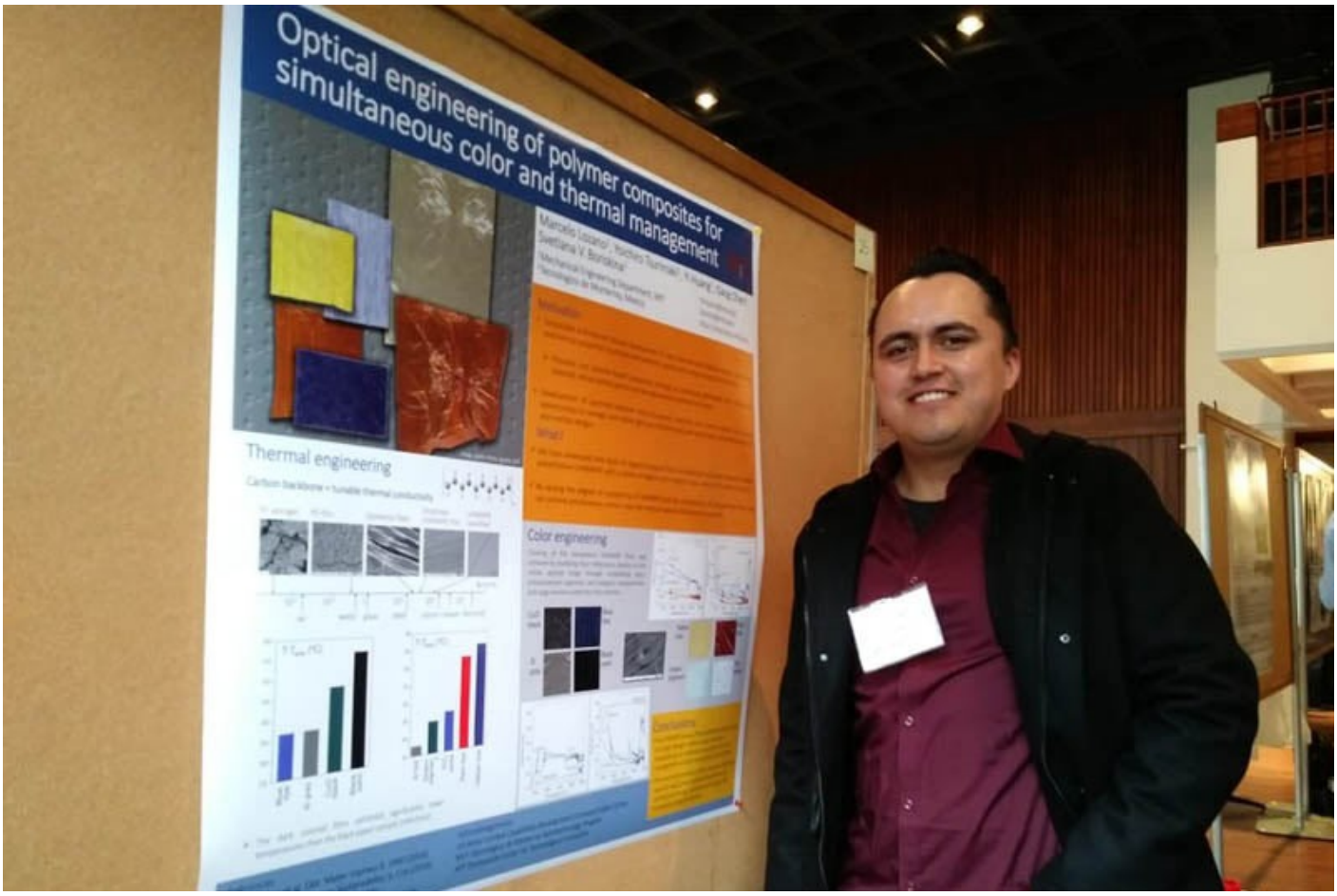
The researcher from the **School of Engineering and Sciences** at the **Tec** said that the **work had emerged from Tec-MIT collaboration** in the **MIT NanoEngineering Group**, whose lines of research include **addressing the development of high thermal conductivity polymers**.

He explained that **color is generally associated with temperature management,** and the aim of this paper was **to modify thermal and optical properties independently** without one affecting the other, in order to make **dark colors lighter.**

*“We used polymer films and filled them with certain **nanoparticles**. On the one hand, the polymeric matrix has high thermal conductivity due to the orientation of its molecules, and on the other, the insertion of nanoparticles provides a certain color to the composite material.”*

“We tested it, placed some films under a solar simulator, and saw exactly this effect, in which a dark color could become lighter,” said the researcher.



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According to this recent **OSA** **prizewinner**, this technology could be **incorporated into camping products such as tents and sleeping bags.**

However, the most attractive application is **in the textile industry**, incorporating nanoparticles into the same polymeric matrix, **but in the form of fibers** to provide comfort to people through appropriate management of the heat generated naturally by our bodies.

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