



The Raven Research Chair, University of Victoria

Kim W.

University of Victoria astronomer Kim Venn and PhD student Masen Lamb want to take the twinkle out of the stars in their search for more insight into the origin of the universe.

That twinkling—which draws stargazers and inspires writers, musicians and romance—is caused by turbulence in the Earth’s atmosphere. But it wreaks havoc for astronomers, who can’t get the detailed images they need unless they build telescopes in space or develop technology that compensates for the turbulence.

“It’s like trying to study birds from the bottom of a swimming pool,” says Venn.

A UVic-led project known as Raven has developed a new way to improve our views of the night sky using cutting-edge adaptive optics—a system of thin mirrors and tiny lenses that change shape 500 times in a second to compensate for image distortions caused by the atmosphere.

The beauty of Raven is that it applies adaptive optics corrections to more than one star at a time. “This is a breakthrough because in the past two or more stars could not be corrected simultaneously,” explains Lamb. “It vastly

widens the scope of sky we can study.”

The Raven system has been successfully demonstrated at the eight-metre Subaru telescope at the summit of Maunakea on the island of Hawaii. Lamb, as part of his PhD program at UVic, is now analyzing data gathered from that demonstration.

The Raven technology is expected to be an integral part of the next generation of

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