

Color perception: Not in beholder's eye

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University of Rochester scientists say the first images of living human retinas have shown color perception differs dramatically among people.

The researchers found the number of color-sensitive cones in the human retina differs by up to 40 times among people, yet all people appear to perceive colors the same way.

The findings strongly suggest our perception of color is controlled much more by our brains than by our eyes.

"We were able to precisely image and count the color-receptive cones in a living human eye for the first time, and we were astonished at the results," says David Williams, a professor of medical optics and director of the university's Center for Visual Science.

"We've shown that color perception goes far beyond the hardware of the eye, and that leads to a lot of interesting questions about how and why we perceive color," he added

The scientists used a laser-based system developed by Williams to map the topography of the inner eye. The technology, known as adaptive optics, was originally used by astronomers to compensate for the blurring of starlight in telescopes caused by the atmosphere.

The study is reported in the journal *Neuroscience*.

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