

Expert outlines challenges of visual accessibility for people with low vision

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New approaches and tools are needed to improve visual accessibility for people with low vision in the "real world," according to a special article in the July issue of *Optometry and Vision Science*, official journal of the American Academy of Optometry.

Vision science, in collaboration with other professions, has a key role in developing technologies and design approaches to promote visual accessibility for the millions of people living with low vision, according to the review by Gordon E. Legge, PhD, of University of Minnesota. In recognition of his pioneering work on low-vision research and visual accessibility, Dr Legge was named the 2013 Charles F. Prentice Award Lecture Medalist.

Visual accessibility for people with low vision—challenges and new approaches

Low vision is defined as chronically impaired vision that is not correctable by glasses or contact lenses and adversely affects everyday functioning. It is estimated that there are between 3.5 million and 5 million Americans with low vision, and this number is expected to increase as the population ages.

In his Prentice Lecture, Dr Legge—himself a person with low vision—proposes to "embed low-vision research more explicitly in the [real world](#)" in order to reduce barriers to visual accessibility, He shares

examples of his research in two key areas: architectural accessibility and reading accessibility.

Architectural design can enhance visual accessibility for people with low vision. Dr Legge gives illustrated examples of how low vision can make it difficult to navigate architectural spaces; the obstacles and hazards may even change with the light at different times of day.

His research includes the development of software tools to promote the design of visually accessible spaces. These tools help in representing the impact of reduced visual acuity and contrast sensitivity, as well as predicting whether architectural features can be seen by people with low vision. Dr Legge writes, "We need practical models of low vision capable of predicting real-world object visibility."

Dr Legge's work also includes efforts to increase reading accessibility for people with low vision. Advances such as electronic readers provide powerful new tools to improve reading accessibility, but there's still a lack of knowledge of how best to use the features they provide. Research is needed to understand the interacting effects of variables such as display geometry, visual acuity, viewing distance, print size, and font.

Dr Legge urges low-vision researchers to work with other disciplines—including software and hardware developers and design professionals—toward solving the problems of visual accessibility. He writes, "Where we succeed, we will contribute to vision science by showing how vision functions in the real world, and we will find better ways to reduce barriers facing people with visual impairment."

For his outstanding history of insights and research in the field of low vision, Dr Legge was named winner of the American Academy of Optometry's Charles F. Prentice Medal for 2013. Established in 1958, the Charles F. Prentice Medal is awarded annually to an outstanding

scientist who has contributed significantly to the advancement of knowledge in the visual sciences.

"Visual accessibility makes an environment, device, or display useable by those with low vision, comments Anthony Adams, OD, PhD, Editor-in-Chief of *Optometry and Vision Science*. "Our Prentice medalist is a world research leader in low vision and he gives us clear insight into the ways [vision science](#) plays an important role in enhancing visual accessibility for people with low [vision](#)."

More information: [Click here to read "Prentice Lecture 2013: Visual Accessibility: A Challenge for Low-Vision Research."](#)

[Click here to watch a video of the 2013 Charles Prentice Medal Lecture given by Dr. Legge.](#)

Provided by Wolters Kluwer Health

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