



## WEBINARS

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# Adaptive Optics: From Design to Application

Wednesday, March 30, 2022 10:00 AM - 11:00 AM EDT

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## .: About This Webinar

Adaptive optics (AO) is a technology originally used for removing the blurring effect of atmospheric turbulence on images in ground-based telescopes. Since then, it has become invaluable in other fields, such as vision science and microscopy. For example, by correcting for blur due to the optics of the eye, AO has revolutionized ophthalmology by allowing diseases to be detected and monitored at the single-cell level, thus providing earlier diagnoses. Karen Hampson overviews AO technology and its application considerations for astronomy, vision science, and microscopy.



### Attendees will learn:

- What AO is, its main components, and how it works.
- Why AO is used in each application (astronomy, vision science, and microscopy).
- How to select the appropriate AO components for each application.
- How to design and implement AO in each application.
- State-of-the-art achievements in each application.

At the end of the presentation, there will be an opportunity for questions.

### Who should attend:

This webinar is for those interested in adaptive optics (AO) and its capabilities. All of those working in astronomy, vision science, and microscopy, who may or may not be directly working with AO systems. Professionals designing, building, testing and monitoring, and/or purchasing AO components and systems. This webinar will provide a primer-level overview.

### About the presenter:

Karen Hampson, Ph.D., is a research scientist at the University of Oxford in England, where she works in the departments of engineering science and experimental psychology. She is leading a multidisciplinary project to develop adaptive optics (AO) retinal imaging technology for the presymptomatic detection of psychiatric and neurodegenerative diseases. She has been developing AO instrumentation for vision science for over 20 years and has a book on this area, *Introduction to Adaptive Optics for Vision Science*, that is due to be published by CRC Press in 2023. She obtained her doctorate in adaptive optics for vision science at Imperial College London in 2004. After that, she moved to the University of Bradford's optometry department, where she developed several AO systems to study the focusing control mechanism of the eye. Hampson joined the University of Oxford in 2017. She is a senior member of Optica and is chair of the society's Applications of Visual Science technical group. She co-founded the European Adaptive Optics Summer School, which is an annual event that teaches the basics of AO across its main applications of vision science, astronomy, and microscopy.

## .: Mark Your Calendar

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Space is limited. Reserve your Webinar seat now at: <https://attendee.gotowebinar.com/register/6208707287384215051?source=Eblast>

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