

4K Video, seeing is believing!

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Introduction

4K video offers lifelike video images, sharper than the human eye can see. The unprecedented high resolution is at least four times sharper than High Definition TV and makes it possible to see details that are invisible with any other video format. In combination with perfect sound, this provides a unique viewing and listening experience that is almost like entering a new kind of reality. 4K video makes new applications possible for instance in cinema, education, telepresence, gaming, visualisation, science and medical research [1].

Project

In a project with 4K video applications in higher education we investigated the possibilities of using this technique for the training of medical laboratory diagnostics for examining microscopic slides. For example histological examination of tissue sections of the liver. For this purpose we attached a 4K RED ONE® camera system to a high performance Carl Zeiss Axio Scope A1 light microscope to make 4K images of tissue sections. The added value of using 4K video to look at these microscopic slides is mainly in the sharp and detailed image that 4K video provides after zooming, unlike traditional video recording. 4K video also offers the possibility to go from global to detail without loss of sharpness which is very important in this type of application. The ability to assess these slides is very important and requires much practice for students. 4K video can be used during a class discussion of these slides. After adding expert comments to the video images by the teacher it can also be used by the students as a tutorial.

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References

- [1] HOORN, J., et al., "Cookbook 4K video", <http://www2.surfnet.nl/publicaties/cookbook4k-EN.pdf>, *SURFnet*, 2010