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Author(s)	F. Wiegandt (University of Oxford)

I attended the OSA imaging and applied optics congress end of July 2016. This international conference took place in Heidelberg/Germany and provided a view of the latest developments in optical sciences as well as their applications to engineering. The annual conference is organized by the optical society of America and covers fields such as Laser Applications to Chemical, Security and Environmental Analysis, mathematics in imaging, computational optical sensing and imaging and digital holography which is of particularly relevant for my work as a PhD student. During the conference I learned about a variety of coherent imaging techniques such as coherent diffraction imaging, digital in-line holography, or ptychography. The application of ptychography to coherent imaging with short wavelength XUV radiation generated by high-order harmonic generation (HHG) from intense femtosecond near infrared laser pulses is of particular relevance for future projects within the scope of my doctorate. By end of July 2016 not sufficient experimental data was accumulated for a formal presentation of my current research project on HHG in gas filled hollow-core photonic crystal fibres, yet possible application of this bright XUV light source to coherent imaging was discussed with people from the scientific community. The conference also provided useful insight into different techniques of beam shaping and beam diagnostics such as wavefront sensing or adaptive optics successfully employed in scientific and industrial applications which could potentially prove useful for my PhD.

All in all, this conference constituted a great opportunity for me to get an overview on the versatile field of experimental optics.