Stanford

Joseph Stephen Robinson

Lead Scientist, SLAC National Accelerator Laboratory

Bio

BIO

My interests lie in the generation and application of femtosecond laser sources across the spectrum, from the ultraviolet through to the far-infrared. My work focuses on developing and optimizing approaches to generate, diagnose, and integrate ultrafast laser sources into complex instrumentation at the the Linac Coherent Light Source (LCLS), working with our user community to address the challenging scientific questions they pose, and supporting a diverse range of research areas enabled by LCLS.

My interest in lasers began during my undergraduate studies in physics at Imperial College London, while working on a project to develop high power laser source with a novel amplifier configuration. I stayed at Imperial for my PhD, where I worked in the Laser Consortium to develop a few-cycle laser source for high harmonic generation and attosecond pulse generation as part of a multi-institute UK initiative developing attosecond technology. In 2008, I joined Lawrence Berkeley National Laboratory to develop an attosecond laser source and beam line for studying dynamics in condensed matter systems, and in 2011, I transitioned to LCLS at SLAC National Accelerator Laboratory, where I have been integrating novel laser sources into the facility's growing instrument suite.

My work at LCLS has centered on laser and infrastructure development, and R&D efforts that enhance our scientific capabilities, and I consider myself very lucky to have been able to work with our users on experiments at every one of our instruments. More recently, I have overseen multiple development efforts, including R&D and new infrastructure, to integrate high repetition rate laser capabilities into our newest instruments for LCLS-II. The high-power laser sources required for this new era in FEL science represent a step change in technology from the original LCLS system, and I'm looking forward to enabling groundbreaking scientific experiments and pushing the boundaries of ultrafast laser applications alongside my colleagues and user community

CURRENT ROLE AT STANFORD

I currently serve as the Department Head for Laser Science at the Linac Coherent Light Source (LCLS), where I lead a team of laser scientists dedicated to advancing ultrafast X-ray free-electron laser (FEL) science experiments. My role involves overseeing research initiatives and providing support to users at the LCLS facility, fostering innovation and collaboration in the field of laser science.

EDUCATION AND CERTIFICATIONS

- PhD, Imperial College London , Physics (2006)
- MSci, Imperial College London , Physics (2002)

LINKS

- Google Scholar: https://scholar.google.com/citations?user=SWqWeqgAAAAJ
- LCLS Laser Science: https://lcls.slac.stanford.edu/depts/lasers
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Publications

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