

Control of Collective Light Scattering Using Spatially Shaped Laser Light

The Quantum Control Group of the Department of Physics of the University of Stellenbosch in collaboration with the CSIR's National Laser Centre (NLC) and the Structured Light Laboratory at WITS is seeking outstanding **Doctoral or Masters Student** candidates to conduct research on establishing laser beam shaping as a control and diagnostic tool in the physics of collective radiative scattering in atomic and molecular systems. In the course of the candidate's research, it will be expected that they master standard theoretical and experimental tools of laser physics and collective scattering phenomena. The student will be responsible for the design and commissioning of an external cavity diode laser, setup of controlled scattering experiment along with the development of appropriate theory of beam shaping and light matter interaction. The student will have the opportunity to spend time in all laboratories involved.

Qualifications required:

Applicants will possess either an Honours degree (MSc applicants) or an MSc (PhD applicants) preferably in a branch of experimental physics. Motivated engineering students will also be considered if they are willing to take essential physics courses.

Applicants must attach the following documents:

- A CV and cover letter
- Copies of qualifications and prior academic results
- Two letters of recommendation from previous supervisors or lecturers.

Please e-mail Dr. Hermann Uys at hermann@sun.ac.za and for more info on the research group visit: http://www.csir.co.za/lasers/quantum_control.html