

# Duc Le

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Date of Birth: 7th September 1982  
Nationality: Dual British / Australian

Marital Status: Single  
Gender: Male

## Education

2001 - BA Natural Sciences / MSci Physics, Cambridge University, 2.1 expected.  
1999 - 2001 A-Level at grade A in Physics, Mathematics, Further Mathematics, History  
1997 - 1999 5 GCSE at A\* grade, 7 at A grade

## Course Details

4th Year Project *Electron Conduction Through Single Molecules*  
The project involves fabricating a metal coated semiconductor substrate to which single molecules are attached as a self assembled monolayer, and measuring the transport properties of electrons across these molecules.

3rd Year Literature Review *Quantum Computation in the Solid State*  
The literature review assessed the progress of solid state implementations of a quantum computer, covering Josephson Junction- and quantum dot-based system and the Kane computer.

## Skills

Leadership City & Guilds COMEC Leadership Award  
(Equivalent to NVQ Level 3).

Computing Familiar with Unix systems, Fortran 90 and C programming languages, Excel, Photoshop, CorelDraw, and their equivalents.

Teamwork Duke of Edinburgh Silver Award  
Engineering in Education Scheme in Sixth Form.

Languages GCSE French and German. Conversational Vietnamese.

Other Full Clean Driving License; Flute grade 4

## Interests

Cadet in University Officer Training Corps  
Hill walking, climbing / mountaineering  
Play Lacrosse for College

## Work Experience

July-August 2004     *Student Undergraduate Research Experience (SURE) Programme, Department of Physics and Astronomy, University of Leicester.*

I spent 6 weeks with the Condensed Matter Physics group working on a project to investigate the properties of spherical silica-gold nanoshells. The nanoshells consist a thin coating of gold colloids attached to a spherical silica nanoparticle by amine terminated molecules (APTMS) adsorbed onto the silica. Despite some synthesis problems we managed to produced a variety of nanoshells with coatings of different thicknesses and characterised them using a spectrophotometer to observe the shift in their plasmon resonance with coating thicknesses. The final aim of the project is to reliably produce nanoshells with resonances in the near infrared range to be used in tumour treatments. In this case the particles would be attached to the tumour and heated to kill the tumour. Since the group had only just started working with nanoshells my task was initially to complete the literature review on synthesis and characterisation methods, and produce with one of the PhD students some initial test samples. Half-way through the project my supervisor and the PhD student I was working with had to go to the European Synchrotron Radiation Facility as part of another project, and since I had become familiar with the group's equipment I was allowed to continue the synthesis and characterisation of the nanoshells on my own.

## Referees:

### Academic (Director of Studies)

Dr. Keith Grainge,  
Department of Physics,  
Cavendish Laboratory,  
Madingley Rd,  
Cambridge, CB3 0HE.

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### Personal (Tutor)

Mrs. Haruko Laurie,  
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