

# ALEXANDER JAMES HOLYOAKE

**Address:** 8 St. James Road  
Shrewsbury SY2 5YH

**Email:** ajholyoake@gmail.com  
**Tel:** 07979752339

**Date of Birth:** 07/08/1985  
**Nationality:** British

---

## EDUCATION

2007-2011 **Ph.D. in Granular Dynamics**, Department of Applied Mathematics and Theoretical Physics & Trinity College, University of Cambridge  
2006-2007 **Masters Degree in Mathematics**, Trinity College, UoC  
2005-2007 **Certificate and Diploma in Modern Greek** (Degree Level), Trinity College, UoC  
2003-2006 **First Class B.A. (Hons) in Mathematics** Trinity College, UoC  
June 2003 **Sixth Term Examination Papers** 2 and 3 (Grade S - outstanding)  
2001-2003 **6 A levels and 1 AS level** all grade A  
1996-2001 **14 GCSEs**, 11 A\* including English and German

---

## MAJOR AWARDS AND PRIZES

2007-2010 **Research council (NERC) studentship** for duration of Ph.D. to cover university fees, lab costs, field work, conference costs and £13,000 maintenance grant per year. Extra 6 months awarded for promising research  
2006,2007 **Language Bursary** worth £1600 p.a. to study Modern Greek in Greece  
2006 **Trinity College Senior Scholarship** For first class degree  
June 2006 **Heilbronn Prize** for outstanding final year result  
2004 **Trinity College Junior Scholarship** For first class degree in first year

---

## RESEARCH RECORD

2007-2011 **Ph.D.:** *“Rapid Granular Flows in an Inclined Chute”*  
Investigating accelerating chute flows; conducted experiments collecting data with bespoke software (C, MATLAB); filtered, processed and analysed data, and compared with solutions produced from a custom non-linear PDE solver  
2011-2012 **First-authored paper** with title “High-speed granular flows” in the Journal of Fluid Mechanics (in publication)  
March 2009 **Conducted 3-week fieldwork** at Swiss Avalanche Institute studying snow avalanches  
2008,2009 **Presented work at leading international conference** in field (Gordon Granular Conference, Maine, US)  
2007-2009 **Gave several presentations** in Cambridge in various talk series

---

## TECHNICAL EXPERIENCE

2009-2011 **Group Leader for Full Blue Racing** (Cambridge University Formula Student team): designed the intake for the 2010 and 2011 cars, assisted with chassis design, coordinated large portions of the construction, acted as sponsor liason and designed the team’s website ([www.fullblueracing.co.uk](http://www.fullblueracing.co.uk))  
2004-2005 **E.J. Holyoake Commercial Body Builder**, Shrewsbury: restoring classic vehicles and repairing commercial and industrial vehicles  
2000 **Computer technician** at Regency Computers, Shrewsbury: Saturday job building and fixing computers

---

## POSITIONS OF RESPONSIBILITY

2012	<b>Property Development</b> sole project manager and instigator of a small residential development project on a brown field site
2011	<b>Mathematicians' Coffee</b> raised money, organised academic book collection and encouraged attendance to promote communication within the department
2009-2010	<b>Organised a series of weekly talks</b> for the G.K. Batchelor fluids lab, Department of Applied Mathematics and Theoretical Physics, University of Cambridge
2008-date	<b>Helped with Maths Open Days</b> ; advertised, organised and demonstrated lab experiments to prospective students
2008-2011	<b>Helped organise weekly social events</b> in the Maths Department; responsible for managing stock and recruiting volunteers
2005-2007	<b>Organised socials</b> and fixtures for College Darts team

---

## TEACHING & COMMUNICATION

2007-2011	<b>Supervisor in Mathematics:</b> taught small groups of Cambridge undergraduate students; more than 170 hours of teaching of several degree level courses, ranging from introductory first year subjects to advanced final year topics
2007-2011	<b>Demonstrator for the Computer Aided Teaching of All Mathematics</b> programme: assisted Cambridge Mathematics undergraduate students with programming in Matlab and C
2008	<b>Mentored inner city Sixth Form Students</b> during Cambridge Summer School programme
2005	<b>Teaching assistant</b> for GCSE Resit Class at Hills' Road Sixth Form College

---

## COMPUTING

<b>Matlab + MEX (C Extensions)</b>	Expert; data processing, calibration routines and non-linear PDE solver (finite volume and spectral)
<b>C / C++ (Linux and Windows frameworks)</b>	Proficient; data acquisition and time critical Matlab routines
<b>Office Suite &amp; VBA</b>	Proficient
<b>HTML, CSS, PHP, Javascript (jQuery)</b>	Proficient
<b>BASH</b>	Proficient
<b>L<sup>A</sup>T<sub>E</sub>X</b>	Proficient
<b>Solidworks CAD</b>	Proficient; air intake design for Formula Student
<b>Digiflow (experiment analysis)</b>	Proficient; Particle Image Velocimetry routines and data acquisition
<b>Python, Perl</b>	Intermediate
<b>Operating systems</b>	Excellent knowledge of using and administrating Linux systems (Gentoo and Ubuntu) and Windows; also proficient with OSX and cursory knowledge of XCode

---

## OTHER SKILLS AND INTERESTS

<b>Languages</b>	Greek (degree level), German (intermediate), French (intermediate)
<b>Driving</b>	Full clean driving licence
<b>Sport</b>	Enjoy skiing, darts and watching Formula 1, learning to sail, go-karting, kit car track days
<b>Music</b>	Playing the piano, guitar and French horn
<b>Other</b>	Restoring bikes and cars, barbeque construction