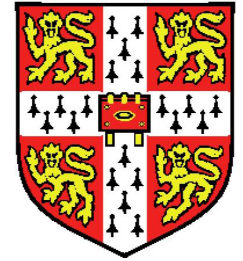
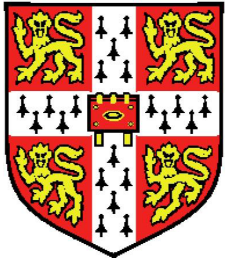


# CAMBRIDGE UNIVERSITY ENGINEERING DEPARTMENT

## OPEN DAYS 2003



**! W E L C O M E !**

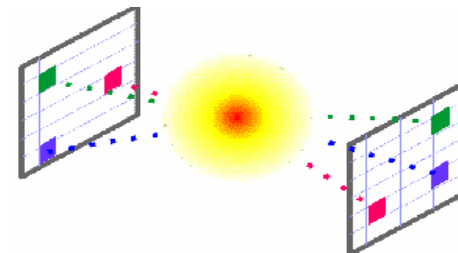
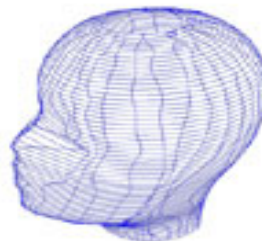
**This booklet lists the TALKS and ACTIVITIES**  
on offer for this year's CUED Open Days

The centre pages contain a **MAP** of the Department, showing colour-coded areas open to visitors  
(each identified by a single-letter 'map-key')

There are **TOURS** running all afternoon (**2.15, 2.45, 3.15, 3.45, 4.15, 4.45**) to show you all that's going on!  
If you would prefer to undertake a self-guided tour, please feel free to do so; however, please note that most demonstrations will be operating on a cycle to accommodate the tours and so you may catch them half-way through. There are **coloured arrows** on the walls to help you get where you're going, and a team of staff and students available around the Department throughout the afternoon.

***PLEASE DO NOT ENTER AREAS OTHER THAN THOSE LISTED IN THIS GUIDE***

**Please see the back cover for information on Safety, First Aid and Facilities**



# PROGRAMME OF TALKS

<i>Time</i>	<i>Talk</i>	<i>Lecture Theatre</i>	<i>Map Key</i>	<i>Notes</i>
1.15	<b>Undergraduate Engineering at Cambridge</b> Dr Geoff Parks <i>A general talk to introduce you to the Department</i>	LT0 Baker Building	a	<i>Repeated at 3.15</i>
1.45	<b>A Brief Guide to the Admissions System at Cambridge †</b> Dr Geoff Parks <i>This session is mainly for those who have not yet had contact with a College</i>	LT0 Baker Building	a	<i>Repeated at 3.45</i>
2.15	<b>Gap Year Schemes *</b> Year in Industry & Smallpeice Trust: Engineering Careers Foundation Year	LT0 Baker Building	a	
2.45	<b>Undergraduate Chemical Engineering at Cambridge</b> Dr David Scott (Thursday) Dr Ian Wilson (Friday)	LT0 Baker Building	a	
3.15	<b>Undergraduate Engineering at Cambridge</b> Dr Geoff Parks <i>A general talk to introduce you to the Department</i>	LT0 Baker Building	a	<i>Repeat of talk given at 1.15</i>
3.45	<b>Cambridge Lecture: Think 'No Waste'</b> Professor Peter Guthrie	LT0 Baker Building	a	
3.45	<b>A Brief Guide to the Admissions System at Cambridge †</b> Dr Geoff Parks <i>This session is mainly for those who have not yet had contact with a College</i>	LR5 Baker Building	f	<i>Repeat of talk given at 1.45 (Video presentation; also available on Web)</i>

† *The Directors of Studies desk in LR4, manned from 2.45 pm, should be able to help you with any remaining queries about admissions.*

\* *The Gap Year Information Stands in LR4 will be manned from 2 pm to offer you more details and advice.*

## GUIDED TOURS of the TEACHING FACILITIES

* Library	* Language Unit	* Thermodynamics	Departing from Baker Building Foyer at <b>2.45, 3.15, 3.45, 4.15 &amp; 4.45</b>
* Design Project Office	* Workshops	& Fluid Mechanics Labs	

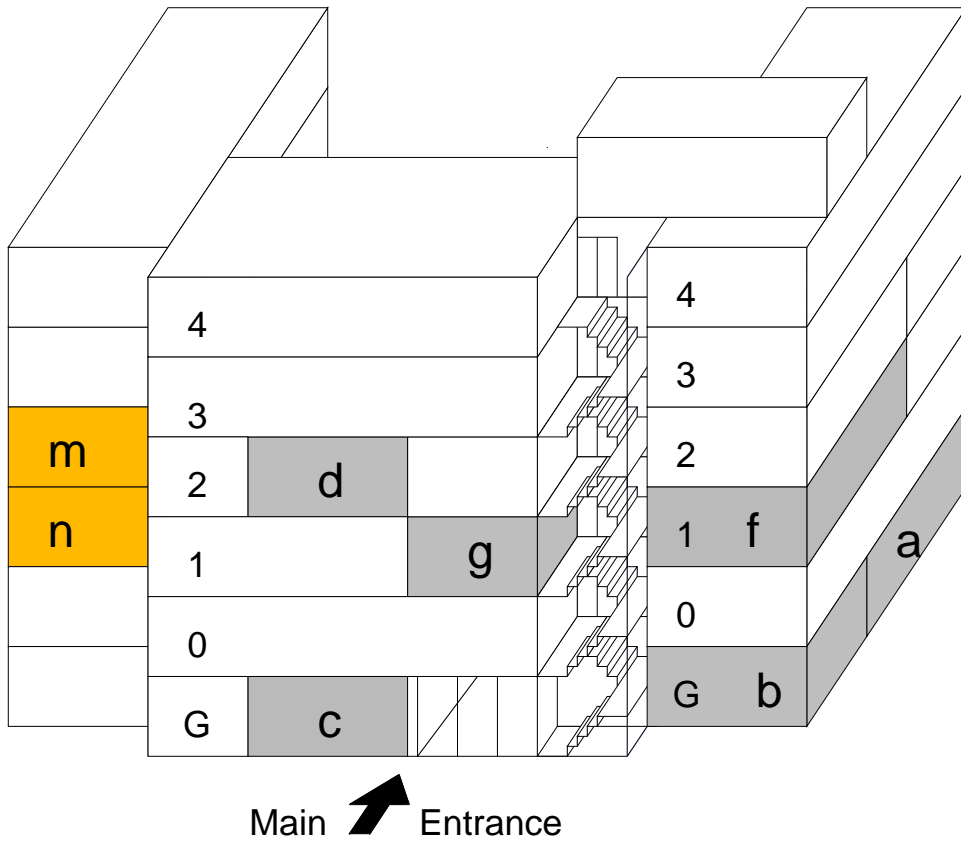
## DEMONSTRATIONS & DISPLAYS

<i>Event</i>	<i>Description</i>	<i>Locations</i>	<i>Map Key</i>	<i>Timing</i>
<b>Nanotechnology</b>	Microfabrication, thin film transistors, micromachining	<b>Clean Room</b> Baker Building Foyer	(c)	Demonstrations at <b>2.45, 3.15, 3.45, 4.15 &amp; 4.45</b>
<b>Engineers Without Borders</b>	Engineering students helping developing communities to help themselves	<b>LR6</b> Baker Building, 1 <sup>st</sup> floor	(g)	Available all afternoon

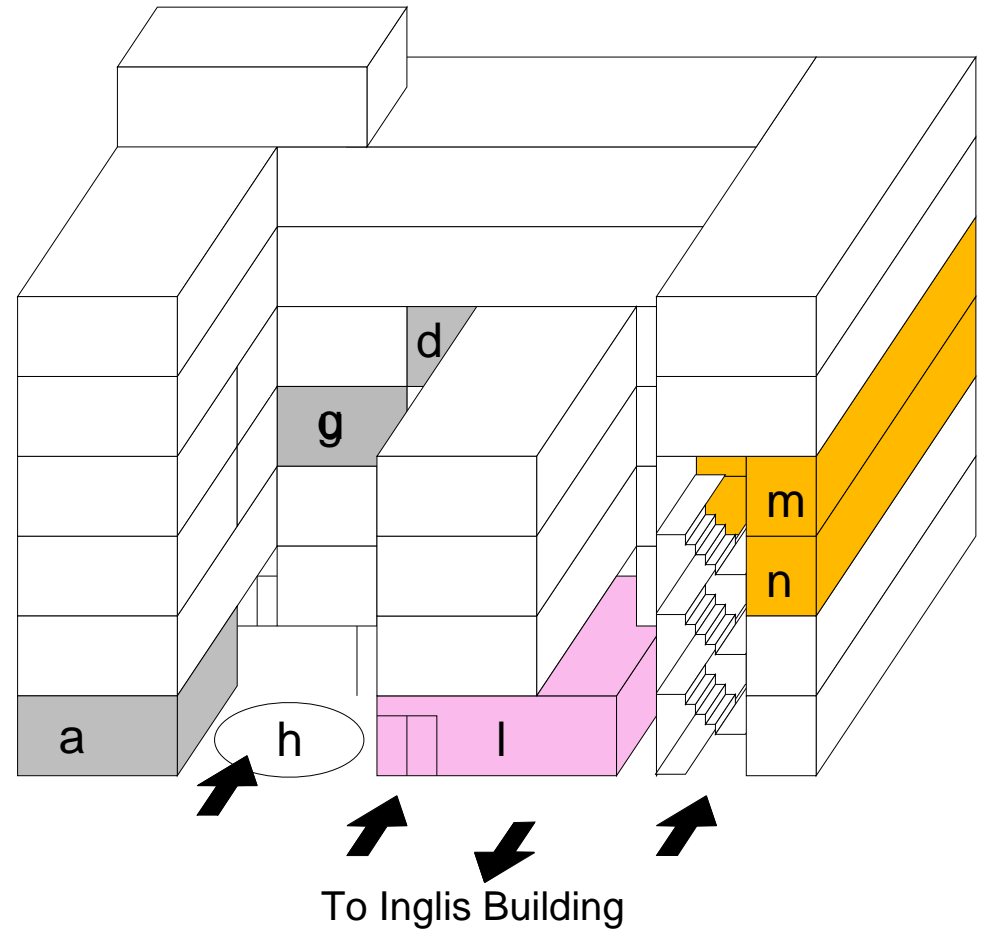
## INFORMATION POINTS

<b>Gap Year Information</b>	Details on <b>Year in Industry</b> and <b>Smallpeice Trust</b> schemes plus CUED's <b>Industrial Experience Liaison Officer, Igor Wowk</b>	<b>LR4</b> Baker Building Foyer	(b)	Available all afternoon
<b>Admissions Queries</b>	Directors of Studies Help-Desk & Frequently Asked Questions	<b>LR4</b> Baker Building Foyer	(b)	Available from 2.45pm










Baker Building



Baker Building  
( view from courtyard )

# Summary of Tours

Tour	Discipline	Topics include:	Locations:	Map Key
ROUTE 1	<b>Mechanical Engineering</b> <i>PINK</i>	How does a gyroscope work? Why can't cars be quieter? Car and truck suspension design Vibrations in building	<b>Mechanical Engineering Lab</b> Baker Building, Ground floor	
	<b>Materials Engineering</b> <i>RED</i>	Breaking steel at $-196^{\circ}\text{C}$ How to check for cracks in aircraft Bicycle design	<b>Materials Lab</b> Inglis Building, Ground floor	
ROUTE 2	<b>Civil, Structural &amp; Environmental Engineering</b> <i>GREEN</i>	On dangerous ground: geotechnical disasters Experimental earthquakes; How groundwater moves Cleaning up gasoline and chemical spillages Containing pollution from contaminated sites Tunneling under London: Controlling the tilt of Big Ben Design of satellite antennae & other deployable structures Sustainable development: Renewable energy; alternative building materials Student activities and projects	<b>Geotechnical Demonstration Area</b> Inglis Building, Mezzanine floor	
		Undergraduate design project: model structures Testing bridges to failure A new way to test concrete using a vacuum	<b>Structures Lab</b> Inglis Building, Ground floor	
	<b>Manufacturing Engineering</b> <i>BROWN</i>	Robotic assembly / Packing line New manufacturing processes Student 'Company start-up' projects Ultrasonic control of friction	<b>Lecture Theatre 2</b> Inglis Building, Ground floor	

<b>ROUTE 3</b>	<b>Aerodynamics</b> <i>YELLOW</i> Wind tunnel demonstrations Lift on wings Vehicle aerodynamics Supersonic space shuttle	<b>Aerodynamics Lab</b> Baker Building, 2 <sup>nd</sup> floor	m
	<b>Acoustics</b> <i>YELLOW</i> Reducing tyre noise Control of unsteady combustion	<b>Acoustics Lab</b> Baker Building, 1 <sup>st</sup> floor	n
<b>ROUTE 4</b>	<b>Electrical Engineering</b> <i>BLUE</i> <b>Photonics &amp; Sensors:</b> Optical fibre switching; 3D TV; Window pane TV; TV on a chip <b>Electrical Power:</b> Motor Magic; Jumping Ring; Magnetic Levitation <b>Electronic Engineering:</b> Design of a CD player; Virtual test bed for ship power systems	<b>Photonics &amp; Sensors Lab</b> Inglis Building, 2 <sup>nd</sup> floor  <b>Electrical &amp; Information Engineering Teaching Lab</b> Inglis Building, 1 <sup>st</sup> floor	o p
	<b>Information Engineering</b> <i>PURPLE</i> <b>Signal Processing:</b> Content-based image retrieval; Speech separation; Beat tracking in music analysis; Rowing Performance Monitor – try it out! Optical motion capture; <b>Communications:</b> TRIP: Optical coding location sensor system Location tracking and context aware computing <b>Machine Intelligence:</b> Freehand 3D ultrasound imaging; Real time visual tracking; Multimedia document retrieval; ‘Point and Talk’ interface to your PDA <b>Control:</b> Model helicopter; Inverted pendulum	<b>Electrical &amp; Information Engineering Teaching Lab</b> Inglis Building, 1 <sup>st</sup> floor	p

# ➤ Safety Warning ◀

SOME MACHINERY AND EQUIPMENT IN THE DEPARTMENT CAN BE HIGHLY DANGEROUS, OR EVEN LETHAL, IF HANDLED WITHOUT SUPERVISION. PLEASE DO NOT TOUCH AND HANDLE ANY MACHINERY OR EQUIPMENT UNLESS ALLOWED TO DO SO UNDER SUPERVISION OF THE OPERATOR OR DEMONSTRATOR RESPONSIBLE

## + FIRST AID +

In the event of an injury, first aid is available. Ask any member of the staff to call a First Aider or contact Reception.

## ← FACILITIES →

**Refreshments** Hot and cold drinks and snack dispensing machines are situated in the corridor of the Inglis Building. Ice creams will be on sale in the Courtyard (weather permitting!).

**Toilets**

**Baker Building**

- Basement: Ladies, Mens and Disabled (North wing)
- 1<sup>st</sup> floor: Mens (South wing)
- 2<sup>nd</sup> floor: Ladies (South wing)
- 3<sup>rd</sup> floor: Mens (South wing)

**Inglis Building**

- main ground floor corridor: Ladies and Mens

**Telephone** The Department's main number is Cambridge (01223) 332600. Public telephones are located in the foyers of the Baker and Inglis Buildings.

**Parents...** **teachers** and other accompanying adults are welcome to use the staff common room (situated on the second floor of the Baker Building) to wait for their charges; tea and coffee and a chance to sit down! (Map key (d)).

