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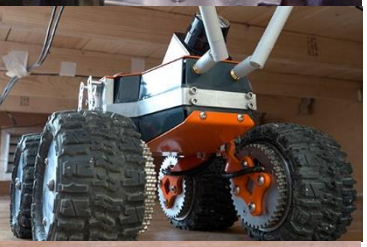
Enterprise by Design

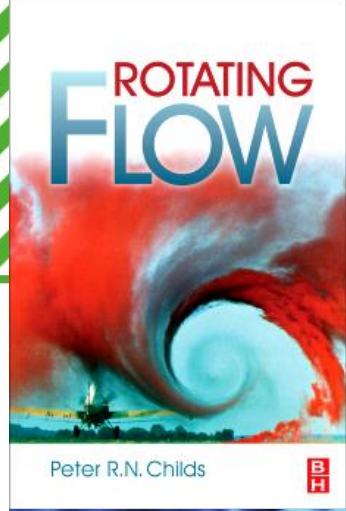
June 2017

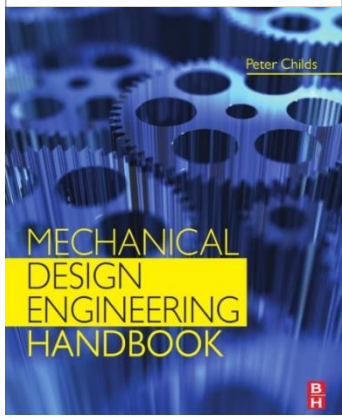
Professor Peter Childs
Head of School, Dyson School of Design Engineering
p.childs@imperial.ac.uk

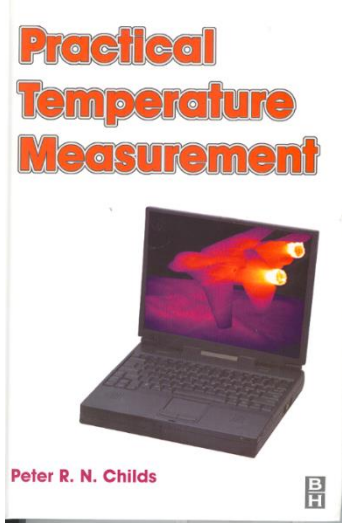
Dyson School of Design Engineering



- Head of School, Dyson School of Design Engineering
- Joint course director: Industrial Design Engineering double masters; Global Innovation Design double masters. (Royal College of Art and Imperial)
- 5 companies (Iceni labs - Creative Director, q-bot – director and CSO, Strategy Foresight, Narrative Shop, Thenergy)
- International Advisory Committee for Collaborative Innovation Center for Advanced Aero Engine, China
- Institute for Gas Turbine, China, International Advisor







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School of Design Engineering

- Design Engineering MEng
- GID – Global Innovation Design MSc/MA (joint with the RCA)
- IDE – Innovation Design Engineering MSc/MA (joint with the RCA)
- DE Research
- Design engineering

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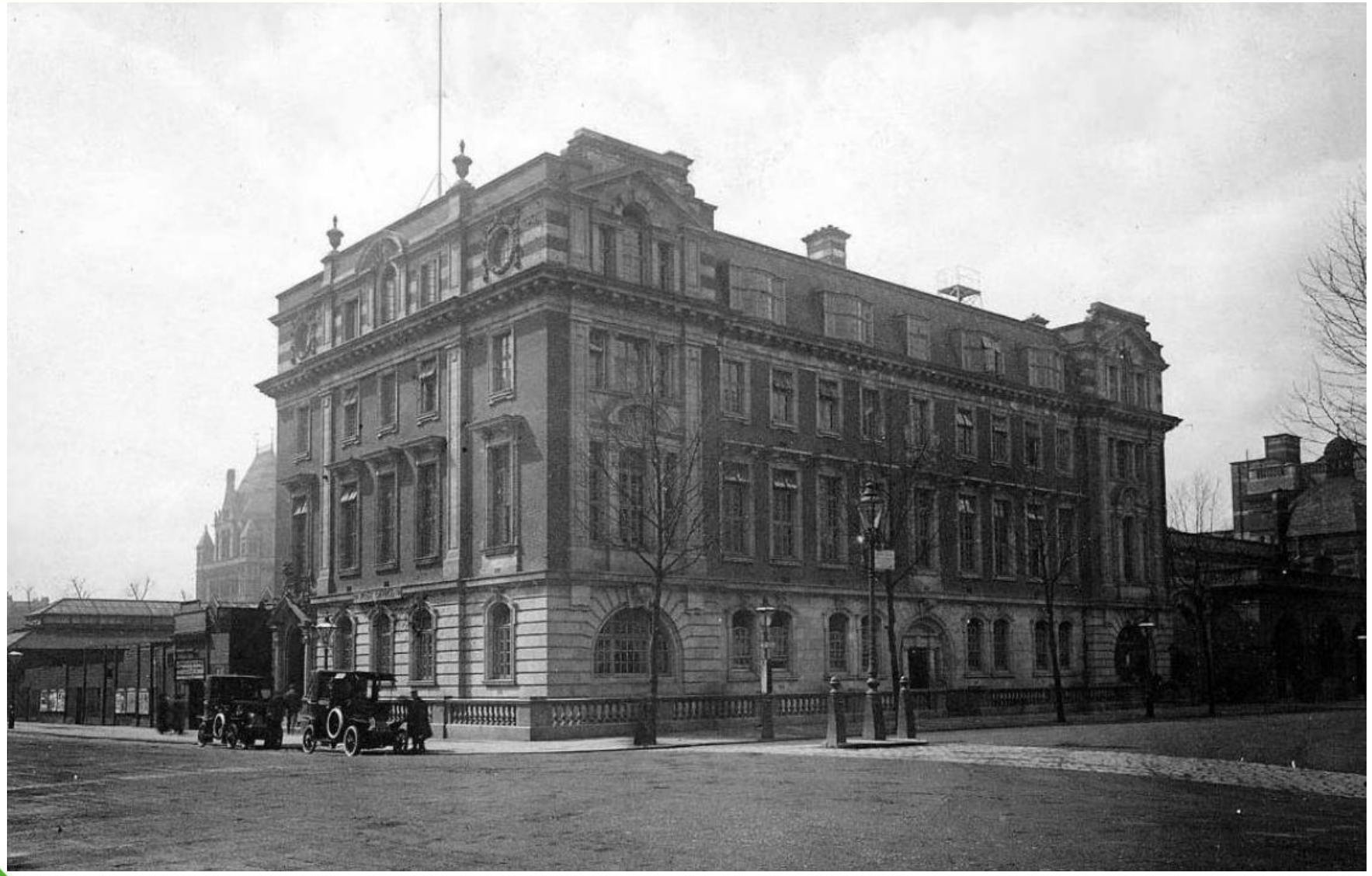
Post Office



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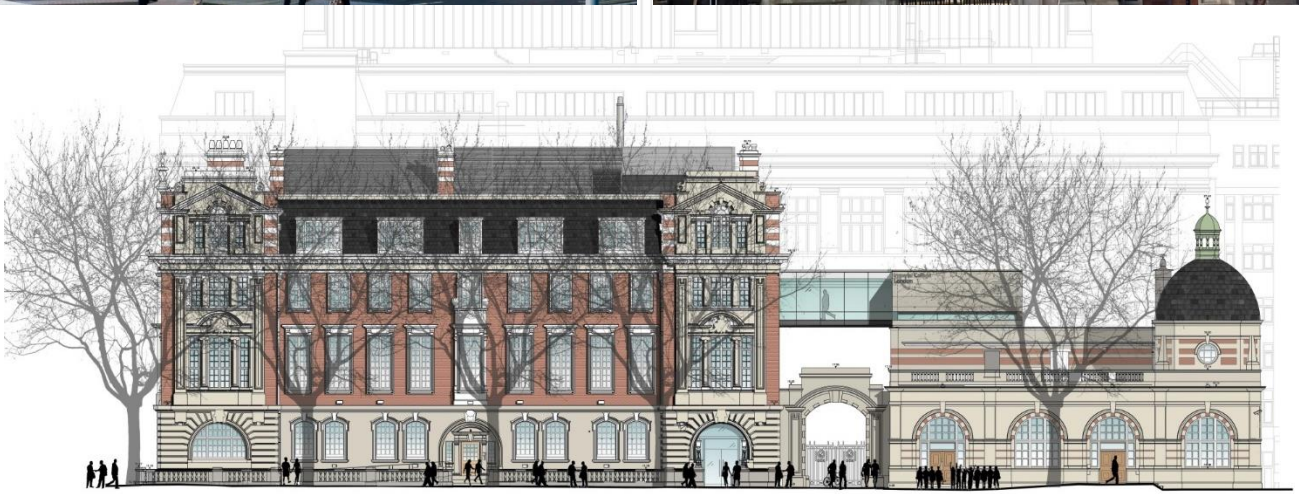

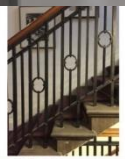

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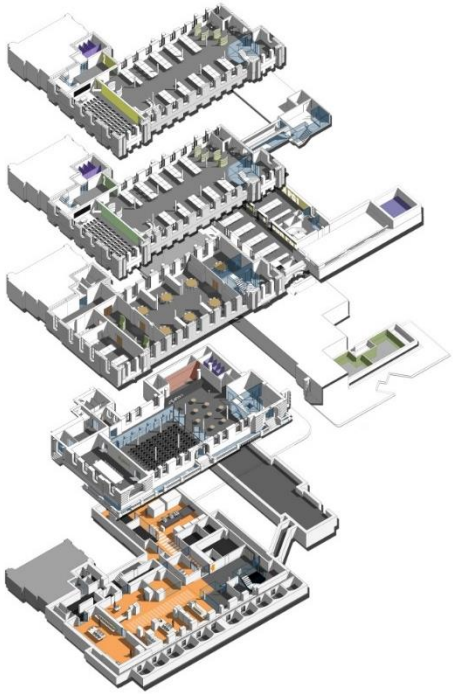
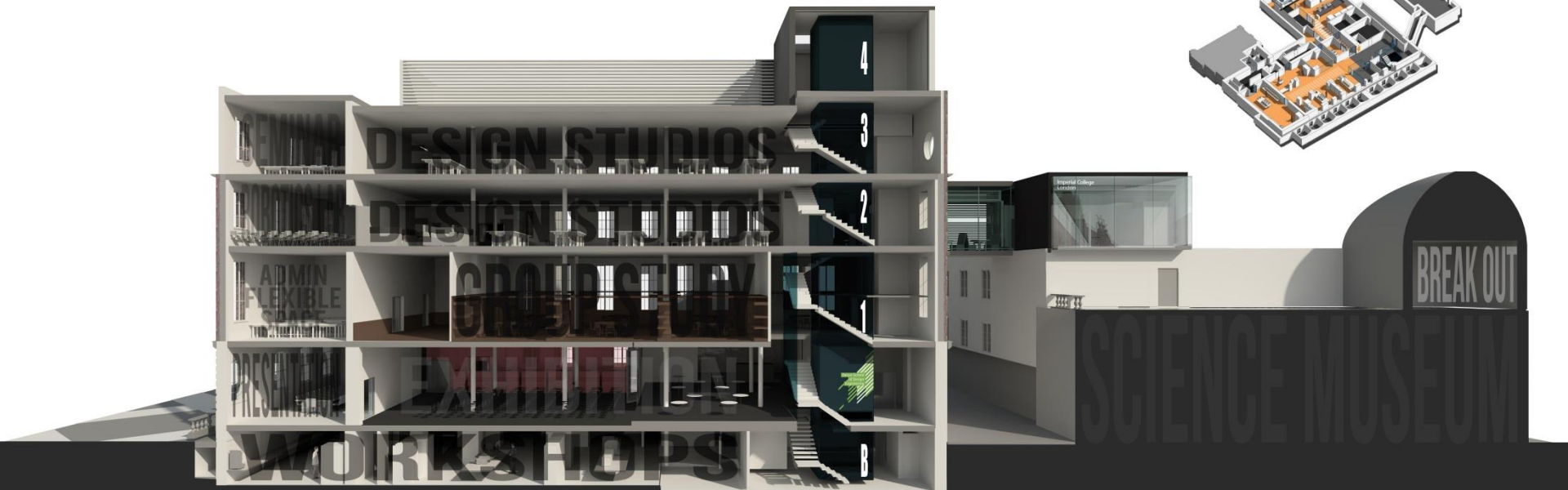
Dyson Building





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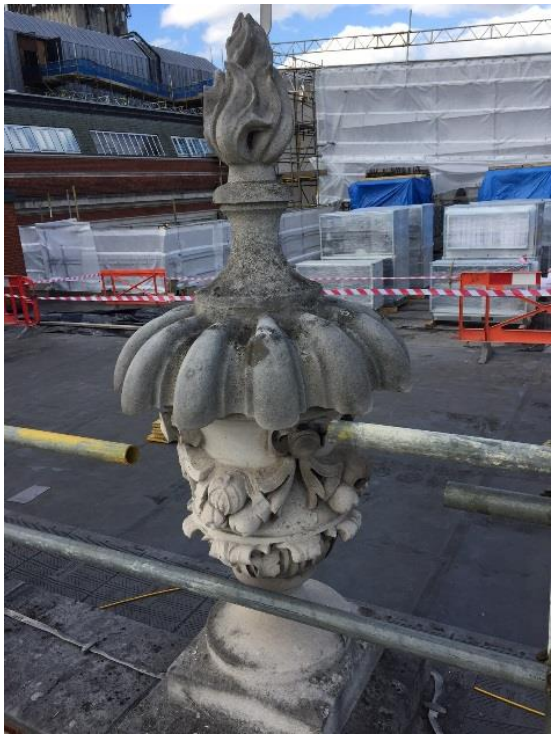
Design Engineering



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Design Engineering Staff

Academic staff

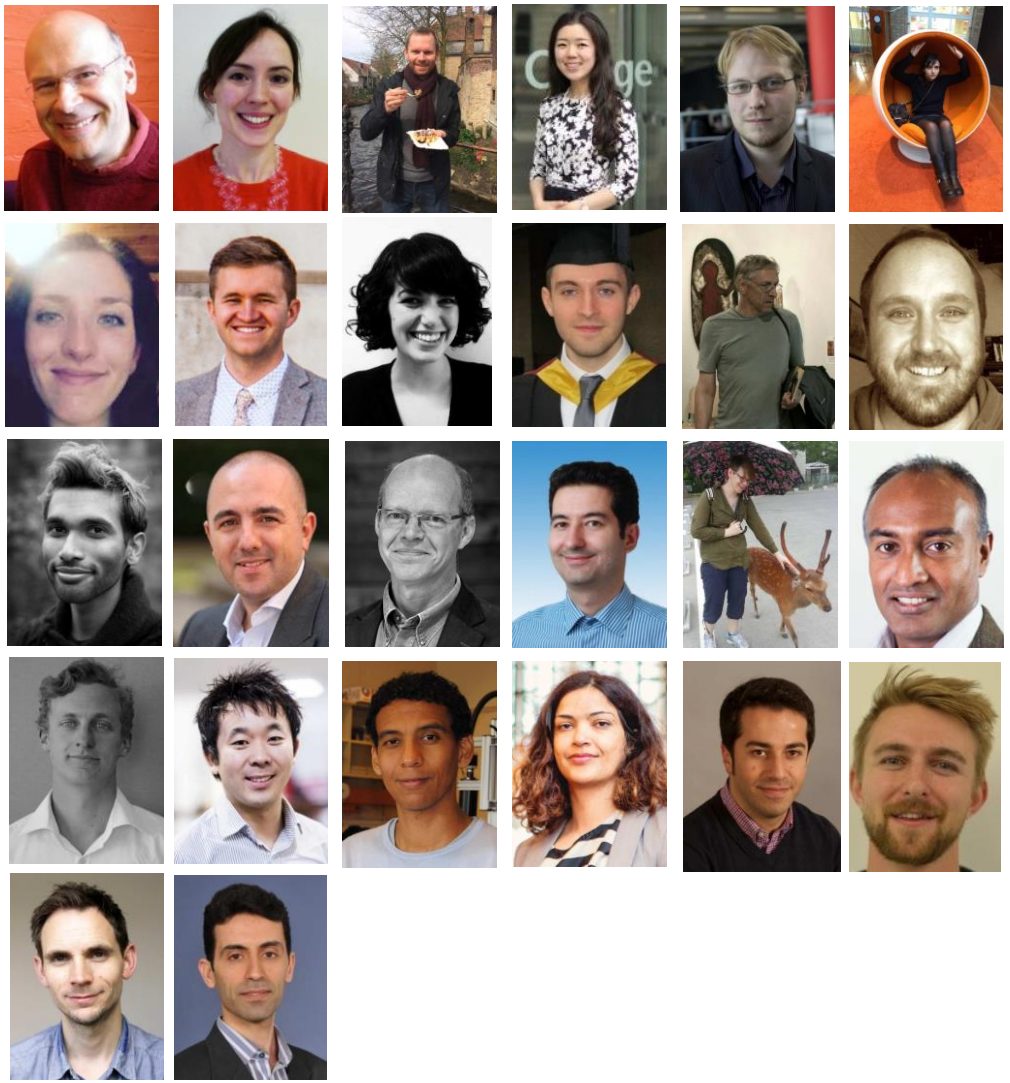
- 14 Academic
  - 2 Professor
  - 1 Reader
  - 2 Senior Lecturer
  - 9 Lecturer
- 5 Teaching Fellows

Support staff

- 6 Administrators
- 2 Technicians

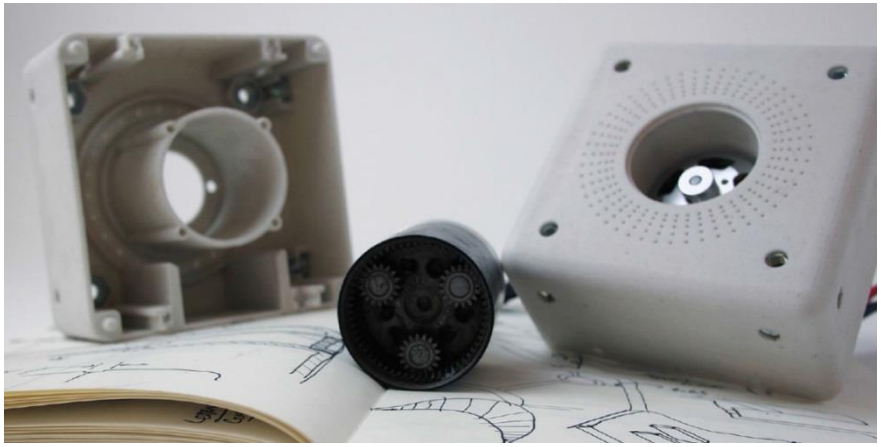
PDRAs and students

- 10 PDRAs
- 30 PhD students
- 120 Postgraduate students (IDE + GID)
- 93 Undergraduate students (MEng)



Design Engineering

Design engineering is the fusion of design thinking, engineering thinking and practice, within a culture of innovation and enterprise.



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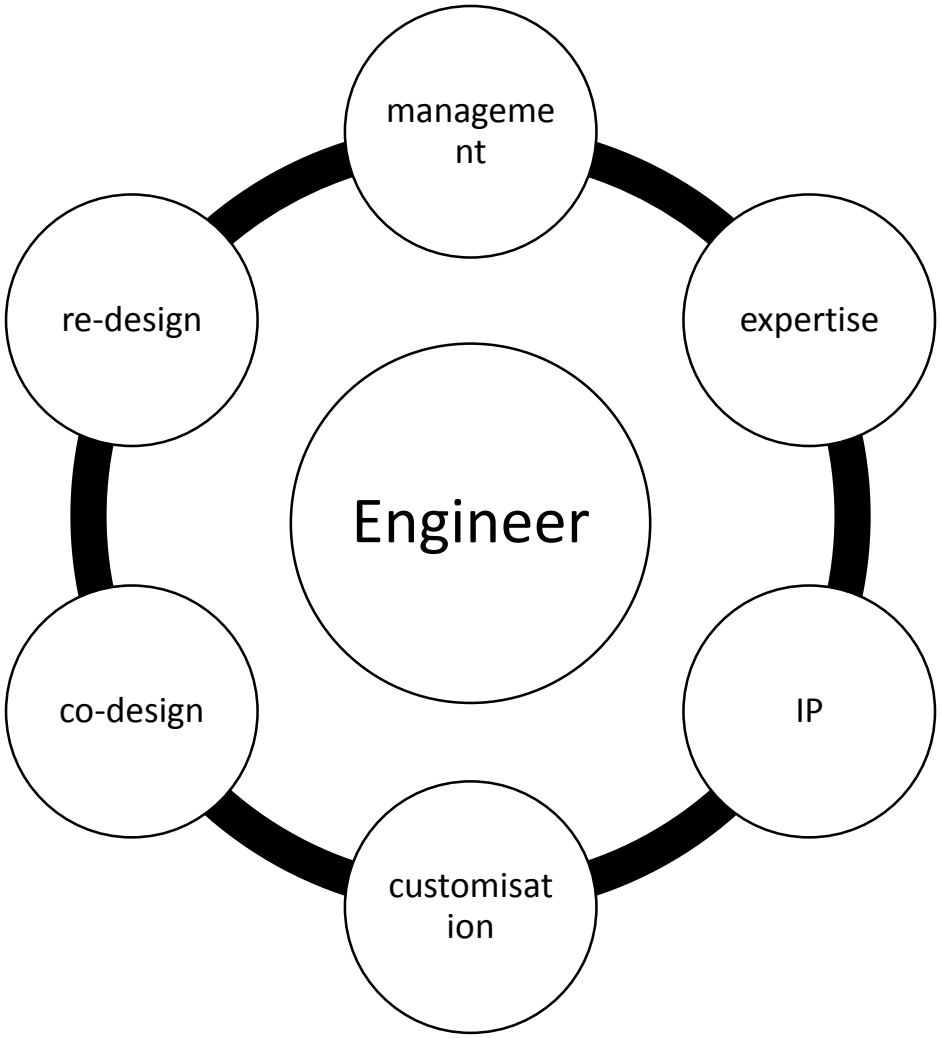
Engineer of the future



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MEng Year 1

Module Title	
	Induction Projects
	Communication in Design
	Contextual studies in Design Engineering
	Engineering Mathematics
	Production and Materials
	Engineering Analysis 1.1 - Mechanics
	Engineering Analysis 1.2 - Energy and Design
	Engineering Analysis 1.3 - Electronics
	Computing 1
	Design 1

Theme	Design	Design engineering project	Engineering	Transferable skills	Enterprise

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MEng Year 2

Module Title	
	Big Data
	Engineering Analysis 2.1 - Advanced Mechanics
	Engineering Analysis 2.2 - FEA
	Engineering Analysis 2.3 - Electronics for Product and System Design
	Gizmo (mechatronics and robotics)
	Design 2
	Computing 2
	Engineering Design Project

Theme	Design	Design engineering project	Engineering	Transferable skills	Enterprise

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MEng Year 3

Module Title	
	CAE
	Design Art Creativity
	Engineering Design Management and Rationale
	Design Led Innovation and Enterprise
	Robotics 1
	Group Project
	6-month Industry Placement

Theme	Design	Design engineering project	Engineering	Transferable skills	Enterprise

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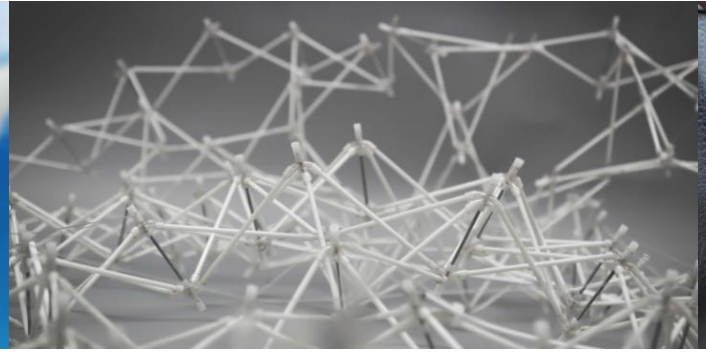
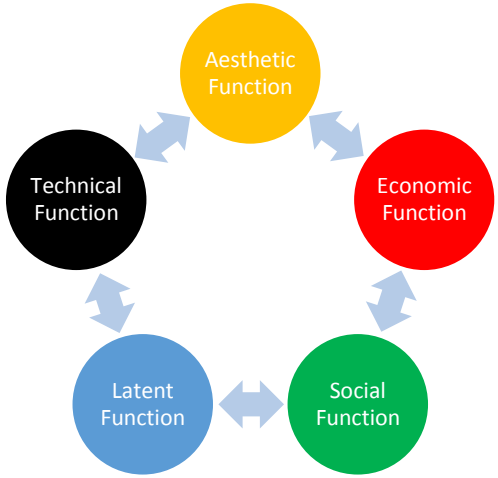
MEng Year 4

Module Title	
	Industrial Design
	Engineering Design Analysis
	Enterprise Management
	Enterprise Roll Out
	Robotics 2
	Solo Project
	AI Design

Theme	Design	Design engineering project	Engineering	Transferable skills	Enterprise

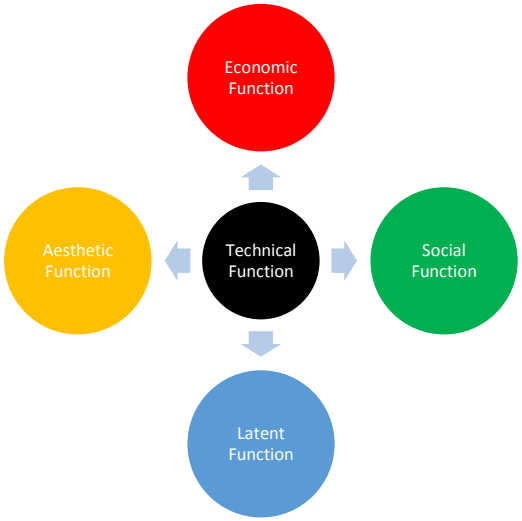




- Product design
- Service design
- System design
- Experience design
- Artefact design



Specific attention is given to:

- Technical function
- Aesthetic function
- Social function
- Economic function
- Psychological function
- Latent function
- Emergent function



Module Name	Term	ECTS	Assessment	1. Engineering knowledge base	2. Problem analysis	3. Investigation	4. Design	5. Use of engineering tools	6. Individual and team work	7. Communica=ons skills	8. Professionalism	9. Engineering impact on society and the environment	10. Ethics and equity	11. Economics and project management	12. Life-long learning
Induction Projects	1	0	n/a			x			x						
Engineering Mathematics	1,2	7.5	Quiz; Ex	x											x
Communication in Design	1,2	10	Ind, prj; pres				x	x		x	x		x		x
Production and Materials	1,2	10	CW; EX	x	x	x			x		x	x			
Design 1	1,2,3	12.5	In & Gp Prj; Pres				x		x	x			x	x	
EA 1.1 - Mechanics	1	5	Lab Rep; EX	x	x										
EA 1.2 - Energy and Design	2	5	Exam	x	x	x	x		x			x			
EA 1.3 - Electronics	3	5	CW; EX	x	x	x			x						
Computing 1	3	5	Comp Ass	x											x
TOT ECTS		60													
Gizmo (Phisical Computing)	4,5	12.5	In Prj; Pres	x			x	x	x	x	x				
EA 2.1 - M4DE	4	5	CW; EX	x	x	x				x					
EA 2.2 - Computer-Aided Eng	5	5	CW	x	x		x	x	x	x					x
EA 2.3 - Electronics for Produ	5	5	CW; EX	x	x	x	x		x						
Design 2	4,5	7.5	In Prj; Pres				x		x	x	x	x	x		
Computing 2	4	7.5	CW	x	x			x	x						x
Big Data	6	5	CW	x		x									x
Engineering Design Project	5,6	12.5	CW		x		x		x	x	x	x	x	x	x
TOT ECTS		60													
Engineering Design Managem	7	7.5	Gp prj; EX							x	x	x	x	x	x
Robotics 1	7,8	12.5	Gp Prj; Pres	x	x		x	x	x						
Group Project	7,8	15	Gp Prj; Pres				x		x	x	x	x	x	x	
Elective 1	8	5	In Prj; Pres												
Elective 2	8	5	Gp Prj; Pres												
Industry Placement - Early As	9	15	Report						x	x	x			x	
TOT ECTS		60													
Industry Placement - Main As	Summer	25	Report						x	x	x			x	
Enterprise Management	10	5	Gp Prj; Pres							x	x	x	x	x	x
Enterprise Roll Out	10,11,12	15	Gp Prj, LB; Pres						x	x	x			x	
Advanced CAE		5	In Prj	x	x			x							
Solo Project	10,11,12	30	In Prj; Pres				x		x	x	x	x	x	x	
Elective 3	11	5	Gp Prj; Pres												
Elective 4	11	5	In Prj; Pres												
TOT ECTS		90													

1. Engineering knowledge base
2. Problem analysis
3. Investigation
4. Design
5. Use of engineering tools

6. Individual and team work
7. Communications skills
8. Professionalism
9. Engineering impact on society and the environment
10. Ethics and equity
11. Economics and project management
12. Life-long learning

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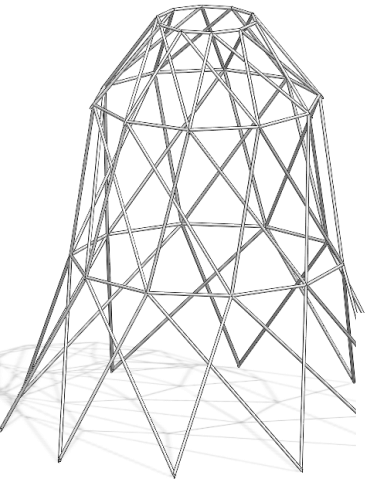
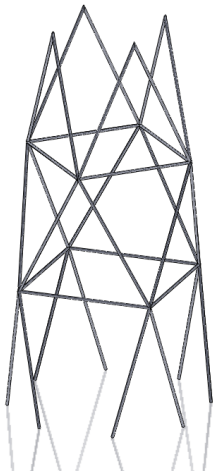
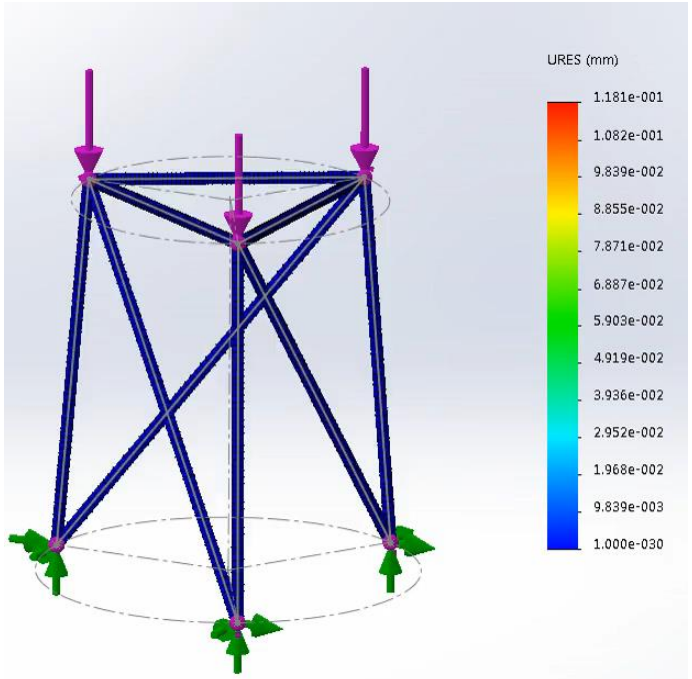
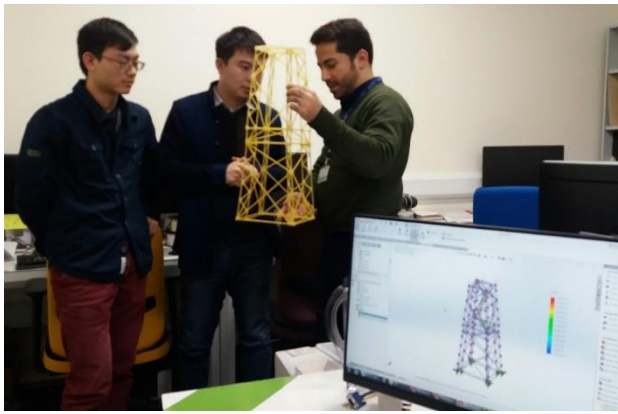
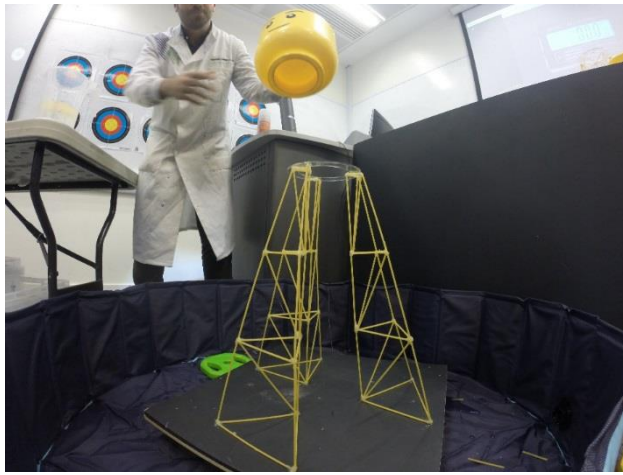
CAE











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DRAW Week

Facts & Figures
Bamboo

Chemical Composition:
60% Cellulose, about 32% Lignin
starch, deoxidized saccharide,
fat and protein

Advantages:
-strong fibres
-durable
-low cost
-higher compression
strength than wood
-often called 'natural glass fiber'.

Current Application:
Bicycle frame
Flooring
Packaging
Furniture
Construction material

Supplier:
China, South East Asia,
South America
and many others

Facts & Figures
Chicken Feathers

Chemical Composition:
Keratin, Structural Protein
made of 17 Amino Acids

Amount available:
16.000 tonnes per day

Current Disposal:
Incineration, Landfill,
Feather Meal Hydrolysis

Production:
global

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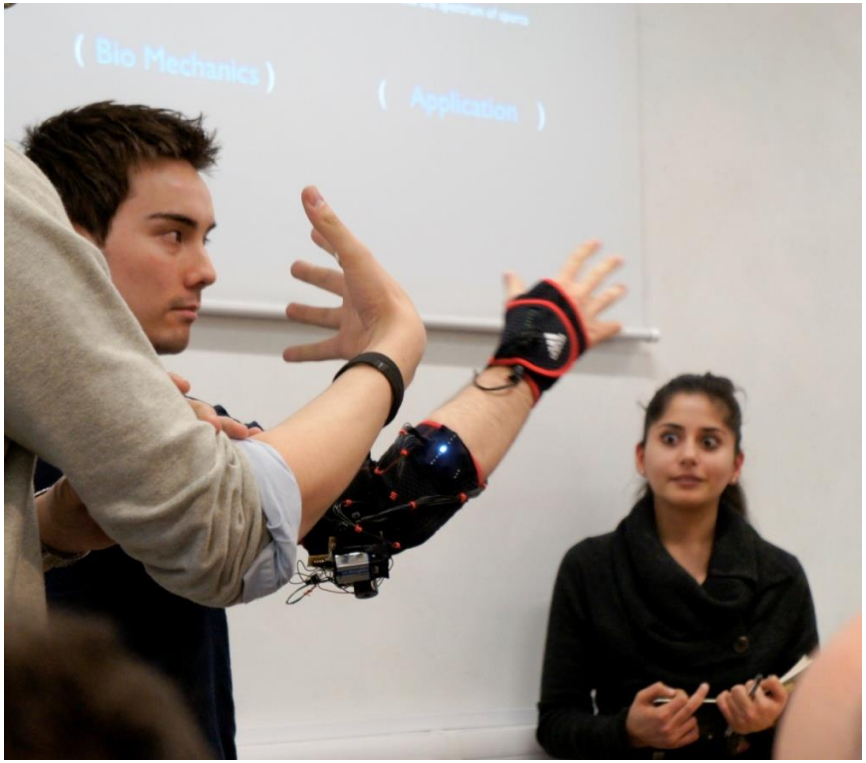

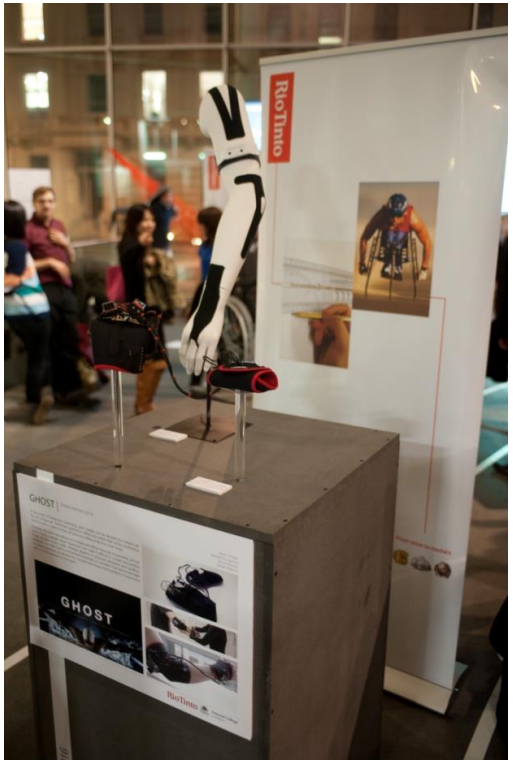

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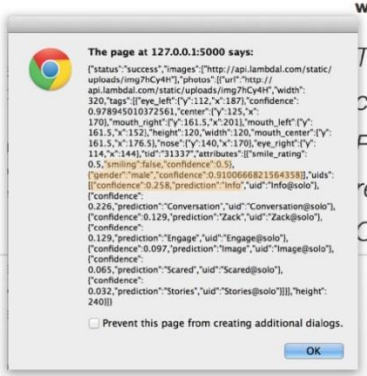
reactSS Test Rebuild Video Capture http://rss.nytimes.com/Technology Load it Up

per second to the average U.S. broadband connection speed. The average home broadband connection is roughly 10 megabits per second in the United States, so a 300-gigabit connection would be 30,000 times the average home speed — not 30 times. That error was also repeated in the front-page capsule summary.

Federal Communications Commission http://www.fcc.gov
The Federal Communications Commission (FCC) is an independent agency of the United States government, established by the Communications Act of 1934 (47 U.S.C. § 151 and 47 U.S.C. § 154), and with the majority of its commissioners appointed by the current President. The FCC works towards six goals in the areas of broadband, competition, the spectrum, the media, public safety and homeland security. The Commission is also in the process of modernizing itself. The FCC was formed by the Communications Act of 1934 to replace the radio regulation functions of the Federal Radio Commission. The FCC took over wire communication regulation from the Interstate Commerce Commission. The FCC's mandated ...

A version of this article appeared in print on May 10, 2013, on page B3 of the New York edition with the headline: To Keep Fliers Connected, F.C.C. Advances a Plan to Speed Up Wi-Fi on Jets.



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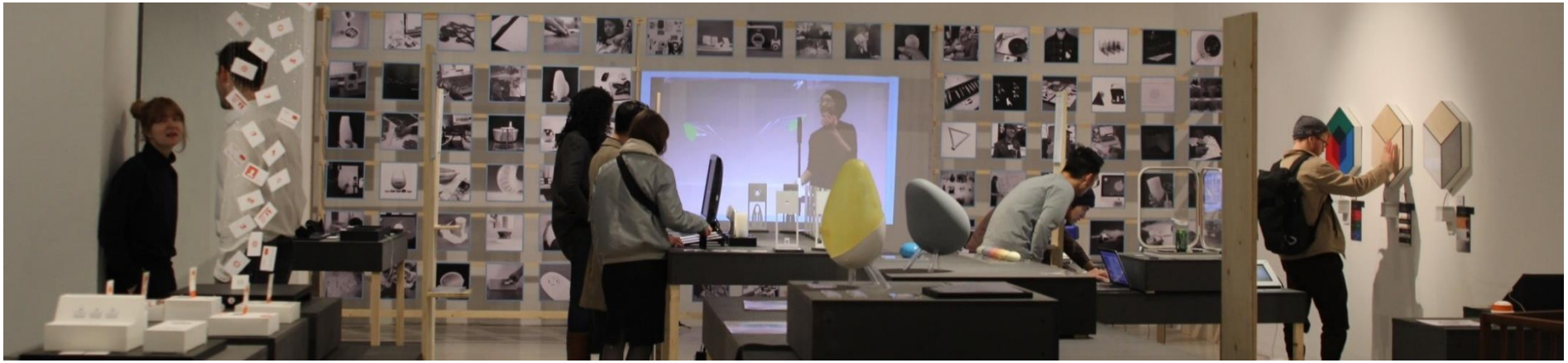

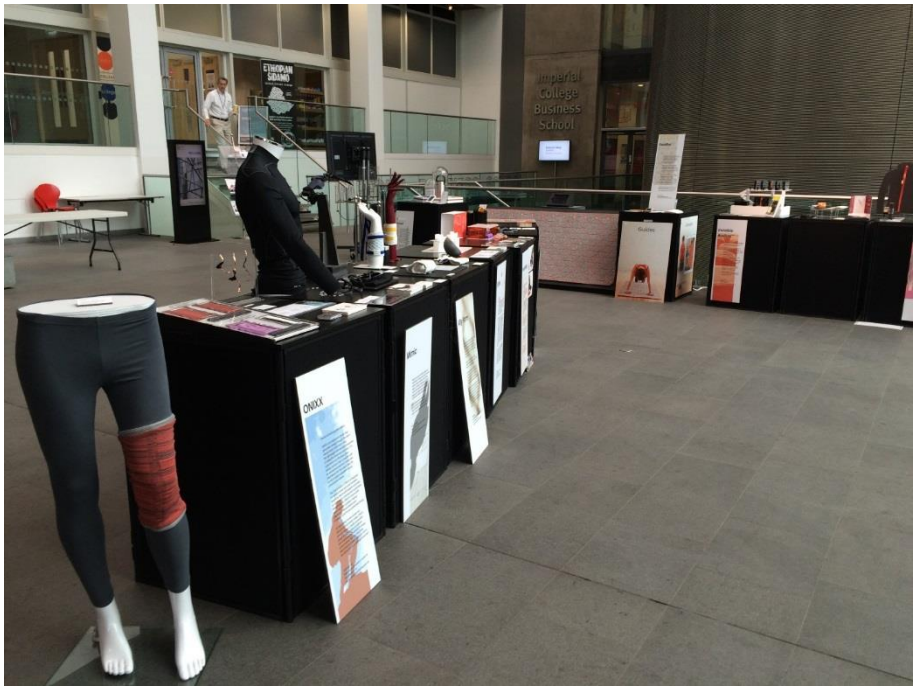

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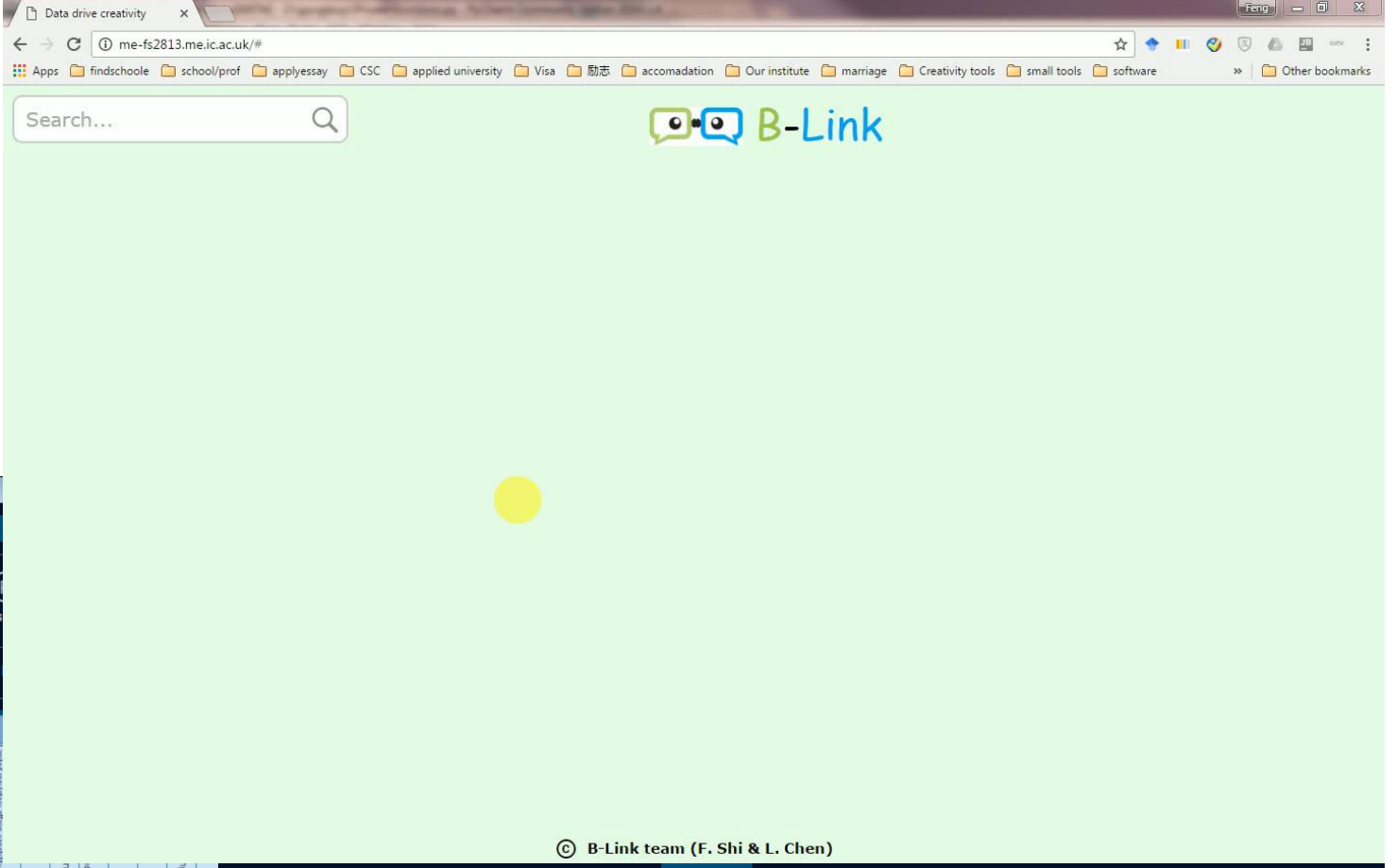
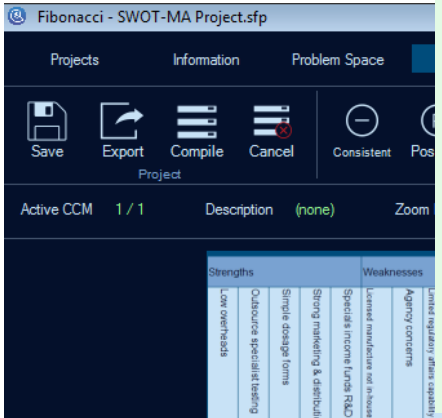
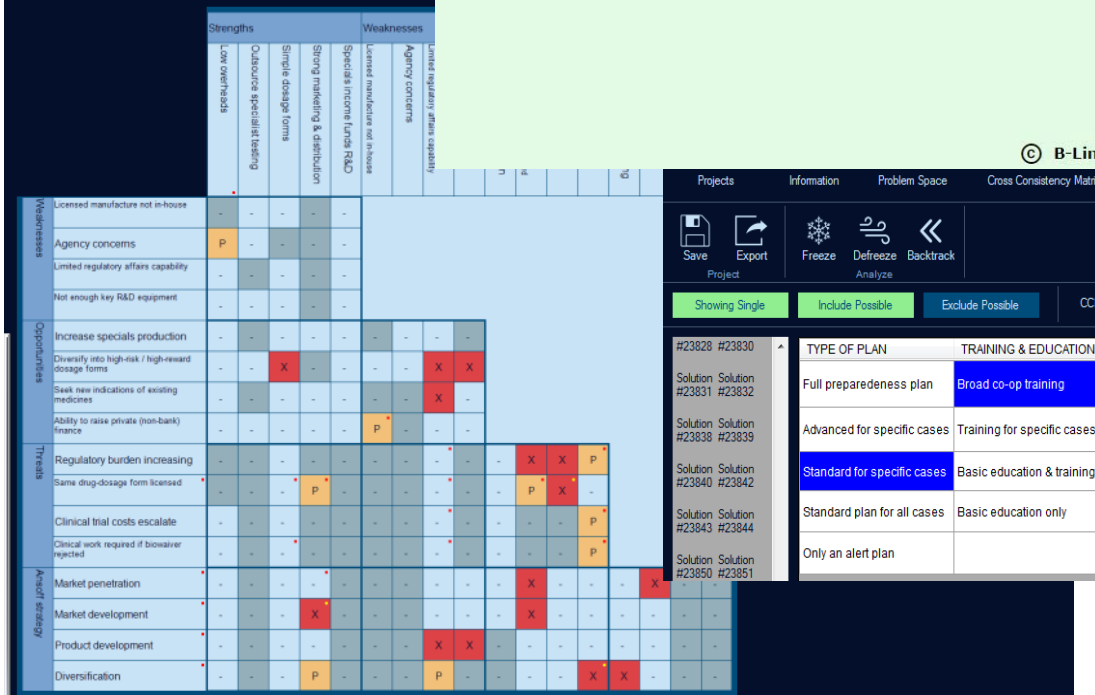
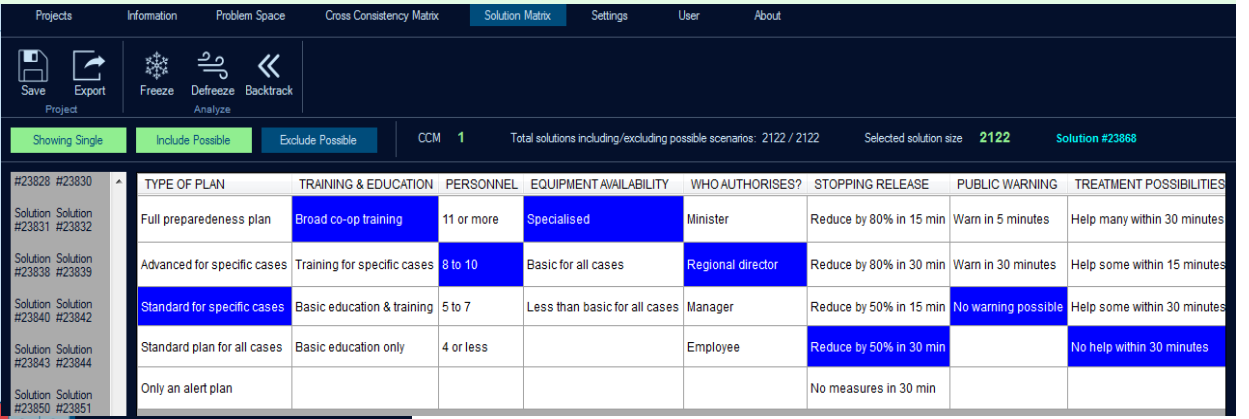
Elena Dieckmann


Data drive creativity
me-fs2813.me.ic.ac.uk/#
Search...
B-Link
© B-Link team (F. Shi & L. Chen)


Fibonacci - SWOT-MA Project.sfp
Projects
Information
Problem Space
Save
Export
Compile
Cancel
Consistent
Project
Active CCM 1 / 1
Description (none)
Zoom


Strengths
Weaknesses
Low overheads
Outsource specialist testing
Simple dosage forms
Strong marketing & distribution
Specials income funds R&D
Licensed manufacture not in-house
Agency concerns
Limited regulatory affairs capability
Not enough key R&D equipment
Opportunities
Increase specials production
Diversify into high-risk / high-reward dosage forms
Seek new indications of existing medicines
Ability to raise private (non-bank) finance
Threats
Regulatory burden increasing
Same drug-dosage form licensed
Clinical trial costs escalate
Clinical work required if biowaiver rejected
Ansoff strategy
Market penetration
Market development
Product development
Diversification


Projects
Information
Problem Space
Cross Consistency Matrix
Solution Matrix
Settings
User
About
Save
Export
Project
Freeze
Defreeze
Backtrack
Analyze
Showing Single
Include Possible
Exclude Possible
CCM 1
Total solutions including/excluding possible scenarios: 2122 / 2122
Selected solution size 2122
Solution #23868
#23828 #23830
Solution #23831 Solution #23832
Solution #23838 Solution #23839
Solution #23840 Solution #23842
Solution #23843 Solution #23844
Solution #23850 Solution #23851
TYPE OF PLAN
TRAINING & EDUCATION
PERSONNEL
EQUIPMENT AVAILABILITY
WHO AUTHORISES?
STOPPING RELEASE
PUBLIC WARNING
TREATMENT POSSIBILITIES
Full preparedeness plan
Broad co-op training
11 or more
Specialised
Minister
Reduce by 80% in 15 min
Warn in 5 minutes
Help many within 30 minutes
Advanced for specific cases
Training for specific cases
8 to 10
Basic for all cases
Regional director
Reduce by 80% in 30 min
Warn in 30 minutes
Help some within 15 minutes
Standard for specific cases
Basic education & training
5 to 7
Less than basic for all cases
Manager
Reduce by 50% in 15 min
No warning possible
Help some within 30 minutes
Standard plan for all cases
Basic education only
4 or less
Employee
Reduce by 50% in 30 min
No help within 30 minutes
Only an alert plan
No measures in 30 min

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clusters not garages" to drive innovation

could help you find love, says student report

family tree of major flowering plant group

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Spinning success

Imperial design engineering student Luca Alessandrini named London's most innovative international student

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Where are they now

Meet Members Of Apple's Elite Industrial Design Team

SETH FIEGERMAN
AUG. 13, 2012, 3:23 PM | 51,813 | 3

Recommend 38 | Share | Tweet 94 | +1 9 | EMAIL | MORE

Duncan Kerr has been a part of the design team since 1999.

Duncan Kerr joined Apple's design team in 1999 after having spent a few years working at IDEO, the design consulting firm. Kerr's name appears on patents for the original iPhone's design, the design of the MacBook Air and more.

Duncan Kerr
Designer
San Francisco Bay Area | Consumer Electronics

Current	**Industrial Design** at **Apple Inc.**
Past	Interaction Design at IDEO Course Tutor at Royal College of Art Product Design at ISIS UK Ltd
Education	Royal College of Art Imperial College London
Connections	**146** connections
Public Profile	http://www.linkedin.com/pub/duncan-kerr

LinkedIn

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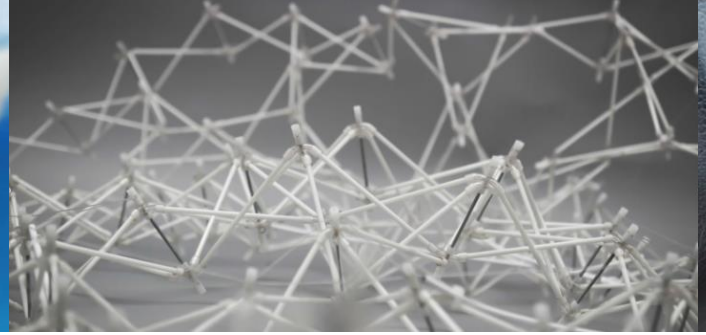
Royal College of Art
Postgraduate Art and Design

Innovate UK announces £50,000 each for 15 female entrepreneurs to boost British innovation - Nov 2016

https://www.gov.uk/government/news/women-in-innovation-awards-2016-15-female-entrepreneurs-honoured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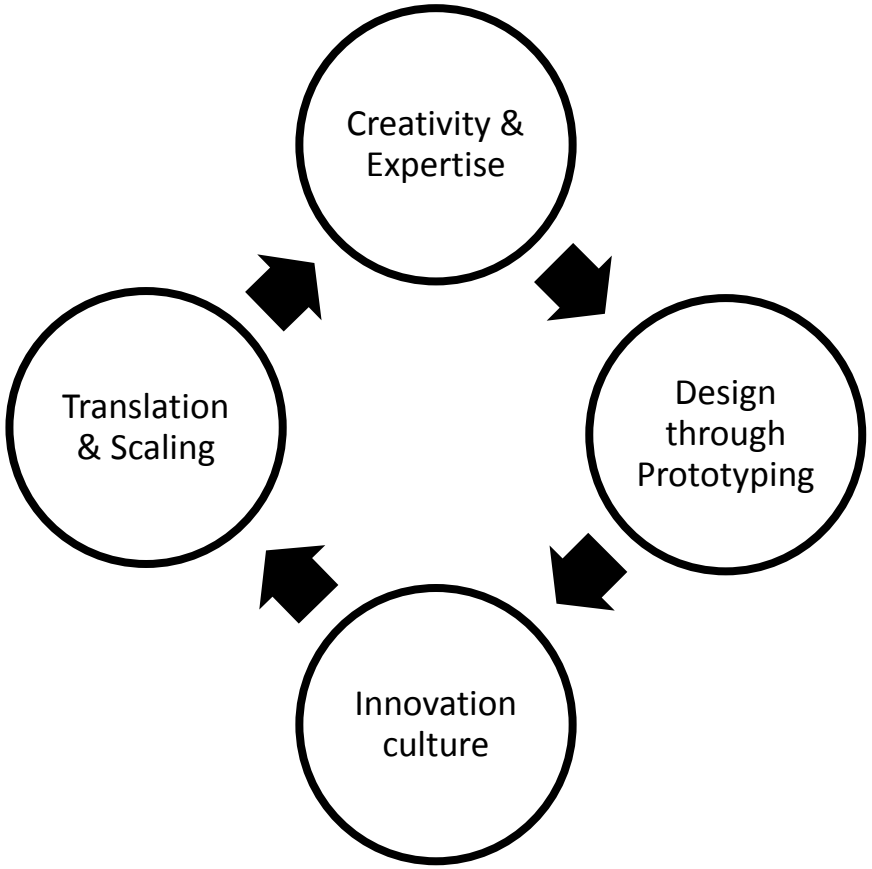

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Royal College of Art
Postgraduate Art and Design

Concrete Canvas

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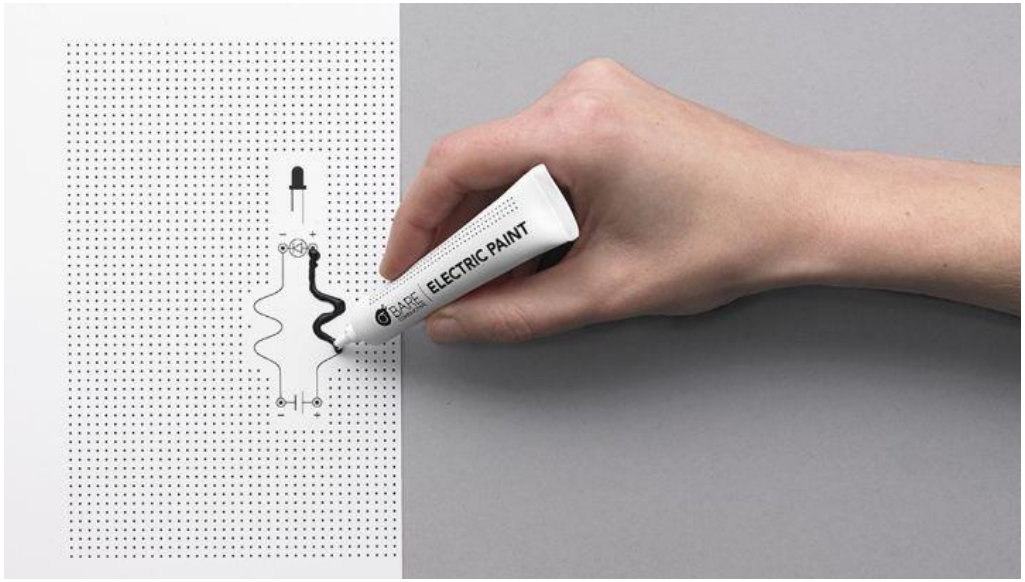
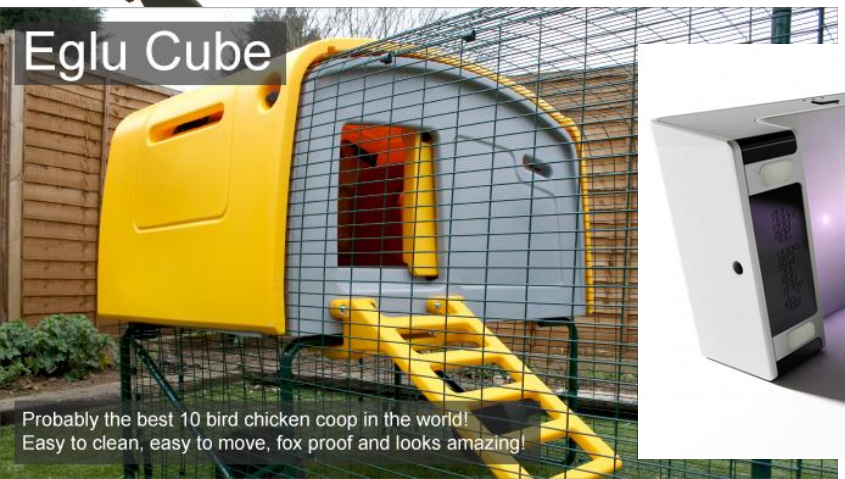
Postgraduate Art and Design

Bare Conductive



draw circuit



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Postgraduate Art and Design

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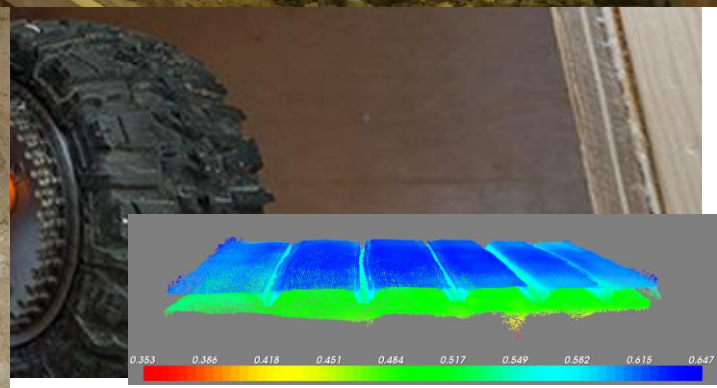
Q-Bot Ltd



Stephen Cousins

Robot technology takes a leap into the floor voids to help insulators save heat, cash – and soap

Have you ever imagined a world where robotic devices were able to upgrade properties without humans having to get their hands dirty? That dream just came a step closer with Q-Bot, a semi-autonomous robot designed to enter floor voids in older houses and spray insulation on the underside of floorboards to upgrade thermal performance.

28th May 2015

Q-Bot wins international **award** from the **IEEE** / IFR, The Best Start-up at the Invention and Entrepreneurship in Robotics Awards

Mathew Holloway (IDE), Peter Childs (DE), Kathryn (IDE1)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