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Global Space Design Challenge Summer Programme 2019

Imperial College London

Saturday 13th July - Wednesday 24th July 2019





Impress your peers and enhance your
University Application.
Be the president of your own company,
a lead engineer or space scientist
at this prestigious STEM event

Are you interested
joining a 'Company' as
part of An Industrial
Simulation?

Space settlements are designed by engineers with the help of doctors, lawyers, scientists and engineers. If you want to be an engineer, space scientist, automation expert or business manager, this course is for you.

This is an intensive residential summer programme for the highest achieving students throughout the world. It offers you the chance to learn from academics and business leaders at a world class university, culminating in a two day challenge patterned after the UK Space Design Competition (UKSDC) and the International Space Settlement Design Competition (ISSDC).

Twelve students selected from the winning company of the challenge, will be invited to attend either the USDC national finals or the ISSDC held at NASA's Kennedy Space Center, Florida*



Get ahead of your peers

Stand out from the crowd

Gain a competitive edge with your
University Application

Improve your written and verbal
presentation skills

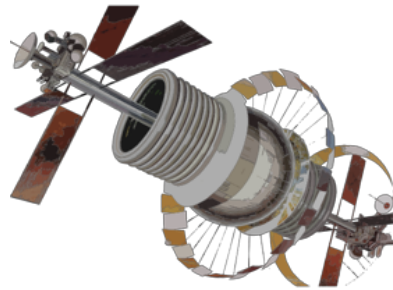
Find hidden talents



As a participant you will:

- Be mentored by world-class academics and industry experts
- Take your subject knowledge to the next level through an intensive academic programme of lectures, seminars and practical sessions.
- Access professional advice and guidance with University applications, including customized tours and lectures at both the Universities of Oxford and Cambridge.
- Work as a team design a settlement in space, and experience the joys and challenges of working in a large industrial company
- Enjoy meeting like minded students and make life-long friends. In spite of the intensive study programme, there will be opportunities to enjoy social activities and some of the attractions that London has to offer
- Receive a valuable course certificate of achievement and competition medal.

Design a space settlement as an aerospace engineer, designer, medical expert, or robotics designer. Learn from Industry experts, design a futuristic space settlement as part of a management team.



THE CHALLENGE

The challenge is modeled on the work of the UK Space Design Competition which has been successfully running educational events in the UK for the past 12 years., founded by Dr Randall S. Perry. Dr Perry is a Senior Research Investigator, Imperial College London, and Honorary Chairman of the Space Science Engineering Foundation, a UK educational charity.

Start times	EXAMPLE ITINERARY Saturday 13 th July	Sunday 14 th July	Monday 15 th July	Tuesday 16 th July	Wednesday 17 th July
08:00		BREAKFAST			
09:00		Introduction to London & Imperial College London	Introduction to Space Design Challenge Jenny Lyons Trisha Saxena	Humans and Space Kevin Fong	Lecture at Oxford University and Masterclass with Oxford University Admissions Staff
10:00		Meet participants, mentors & staff	Space Now And Space In The Future Jeremy Curtis – UK Space Agency	Physical Environment in Space	
		BREAK			
11:00	ARRIVAL MEET & GREET	Introduction to summer camp and shedule	Space bodies and Geophysics of Planets, The Universe Professor Mark Sephton	Space body and Planetary Protection	Tour of Oxford University
12:00		LUNCH			
13:00		Tours of London Natural History Museum Science Museum Harrods Buckingham Palace	Company Assignments and Your Product	Space Medicine and Physiology	Masterclass with Dr Marcus du Sautoy FRS, OBE
14:00			WORKSHOP Developing Your Product CAD design – Structural Design Presentation Design Gannt Charts	The Dawn of Robots – Positronic Man	
15:00				Automotion Engineering	
16:00			Design and Architecture	Return to London	
		Theo Macklin-Leader plus tutors			
17:30	DINNER		DINNER	DINNER	DINNER
18:00		DINNER			
19:00				MOVIE NIGHT	

Start times	Thursday 18 th July	Friday 19 th July		Saturday 20 th July	Sunday 21 st July
08:00	BREAKFAST				
09:00	Lecture at Cambridge University and Masterclass with Cambridge University Admissions Staff	Medical Issues in Space Settlements		How Companies are organised and Run	Introduction to the Space Design Challenge
10:00		Law and Order in Space Colonies Nigel Jackson Karan, Missick & Traube		Leadership	How to Play the Game
		BREAK			
11:00		What is Life and the Importance of Defining Life in Assrobiology Dr Randall S Perry		Presenting	Requests fot Proposals (RFP) Alison Ahearn
12:00		LUNCH			
13:00		<u>OPTION A</u> Tour and Admission Masterlcass of London Universities Kings College UCL London School Economics Queen Mary University of London	<u>OPTION B</u> Intensive Specialized Training Electives Coding, Programming, computer system design – Neelesh Ravichandran Medical Issues – Kamogelo Thutoetsile Designing Space Craft & Satelites Scott Fisher Physics of Space Travel – Trisha Saxena	WORKSHOP Presenting Skills Writing Skills	Selection of Company Officers and Management Dr Randall S Perry & Tutors
14:00					Professional Talks – Structual Engineering Operations Engineering Human Engineering
15:00		BREAK			
16:00	Return to London				Professional Talk – Automation Engineering Neelesh Ravichandran Professional Talk – Company Management Trisha Saxena
17:30	DINNER			DINNER	DINNER
18:00		DINNER			
19:00	Guest Lecture	FREE TIME		Guest Lecture	Company Meeting with CEO and Members

Start times	Monday 22 nd July	Tuesday 23 th July	Wednesday 24 th July
		Hand in memory stick with Company Presentations	
08:00		BREAKFAST	
09:00	Companies Work on Settlement Design	COMPANY PRESENTATIONS Each Company will have 30 minutes plus 10 minutes judges questions	DEPART FOR HOME
10:00			
10.30		BREAK	
11:00		Continue Company Presentations	
12:00	LUNCH		
13:00		LUNCH	
14:00	Companies Work on Settlement Design	Judges Deliberate Student Activity with Jenny Lyons	
15:00		Judges Discussion of Presentations	
15:45		Judges Announce the Winning Company	
16:00			
16:30		Winning Company selects students to go to NASA'S Kennedy Space Center July 2020	
17:30			
18:00		DINNER PARTY WITH CERTIFICATE PRESENTATIONS	
18:30	Continue to Work on Designs		
22:30	Lights Out		

Selected Guest Speakers



Dr Randall Perry

SSEF & SDC Founder,
Senior Research Investigator
Imperial College London,
Royal Society Fellow and
University of Oxford
Fellowship



Marcus du Sautoy

FRS, OBE

Simonyi Professor for the
Public Understanding of
Science and a Professor of
Mathematics at the
University of Oxford.



Dr Richard Ghail

SSEF Trustee Chair

Lecturer in Engineering
Geology, based in the
Department of Civil and
Environmental Engineering,
Imperial College London



Trisha Saxena

Alumni of the UKSDC and
the International Space
Design Competition

Final year at Imperial
College London, studying
Physics



Alison Ahearn

Deputy Director Galactic
Challenge

Principal Teaching Fellow at
Imperial College London



Jeremy Curtis

Head of Education and Skills,
UK Space Agency



**Professor Mark
Sephton**

Head of the Department of
Earth Science and
Engineering, Imperial College
London.



Scot Fisher

Scott Fisher is an Opto-
Mechanical Engineer Surrey
Satellite Technology Ltd



Kamogelo Thutoestsile

Medical Doctor,
studied at University of
Cambridge, Alumni UKSDC
and NASA ISSDC



Jenny Lyons

Director of Education
Outreach
UK Space Science
Engineering Foundation



ACCOMODATION AND MEALS

All rooms are in Imperial College London, within a short walking distance to the venue. Rooms are two person shared however other options are available on request. Meals included are Breakfast, Lunch and Evening Meal.**

AIRPORT MEET AND GREET

Students will be individually met at airport arrivals by a member of our staff and transfers to accommodation will be provided.

MENTORS

Experienced Space Design alumni available 24hrs a day for all participants.

Further Information

HEALTH – Students will have access to a nurse, GP and hospital facility 24hours a day.

CLIMATE - Summers have pleasant temperatures with **average** high temperatures around 21 degrees Celsius (70°Fahrenheit) and night temperatures of 11 degrees Celsius (52°F).



For more information contact us at:

enquiries@gspacedc.com

Call +44 (0) 7986928535/ 7584190961

<https://gspacedc.com>

* the twelve students selected to go to NASA the following year will have additional costs not provided by the Global Space Design Challenge

** Adult rooms available upon request

Global Space Design Challenge Ltd, 143 Old Church St, London, SW3 6EB, England Company registration 10789489



GLOBAL SPACE DESIGN CHALLENGE