

MANCHESTER
1824

The University of Manchester

Careers in Academia

Ellie Smart

PhD Student

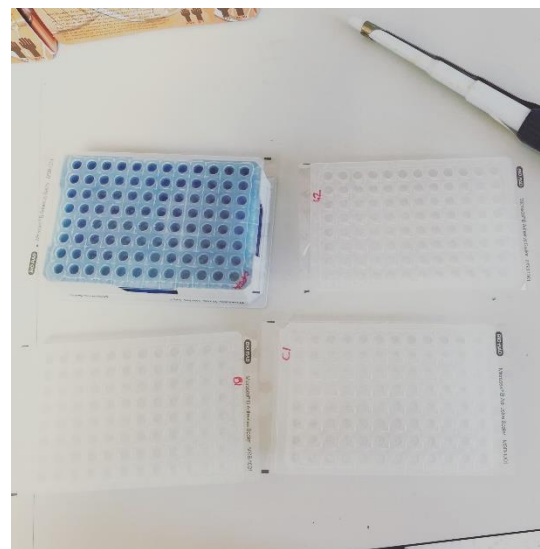
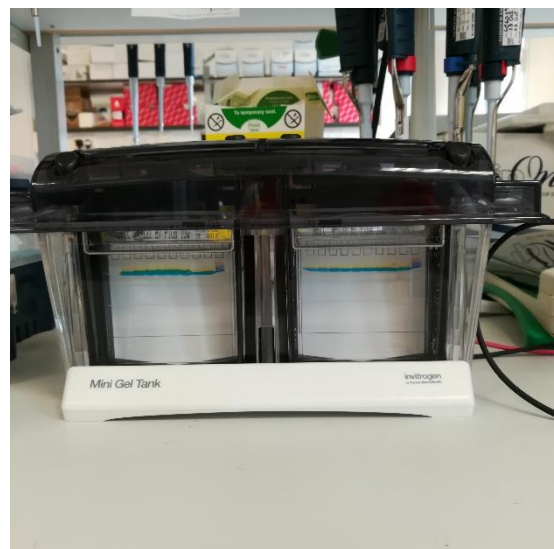
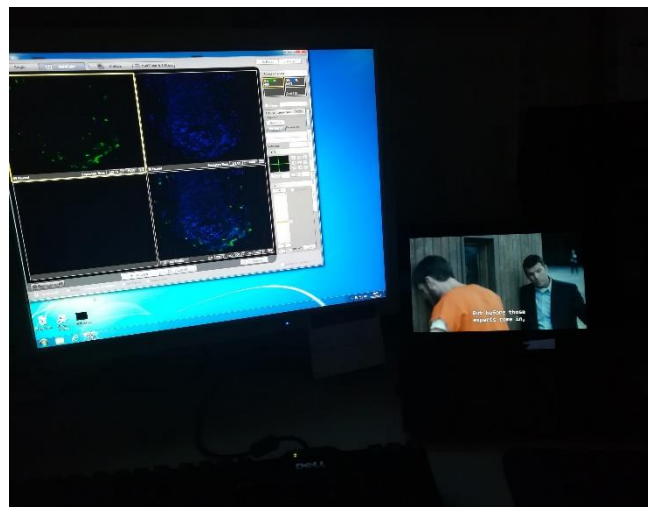
University of Manchester

Who am I?

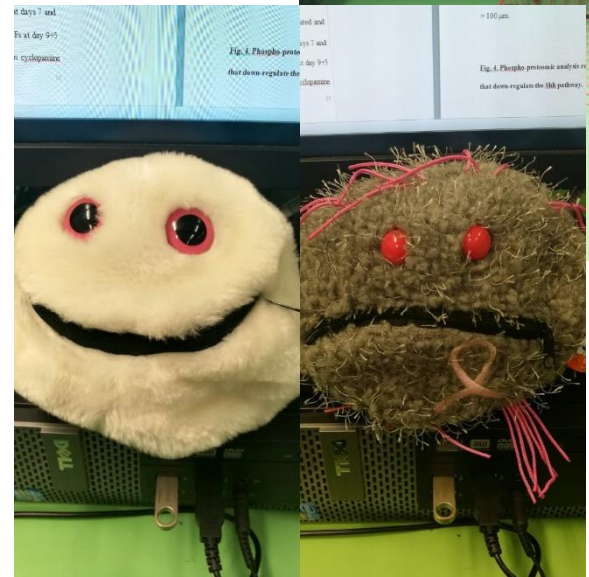
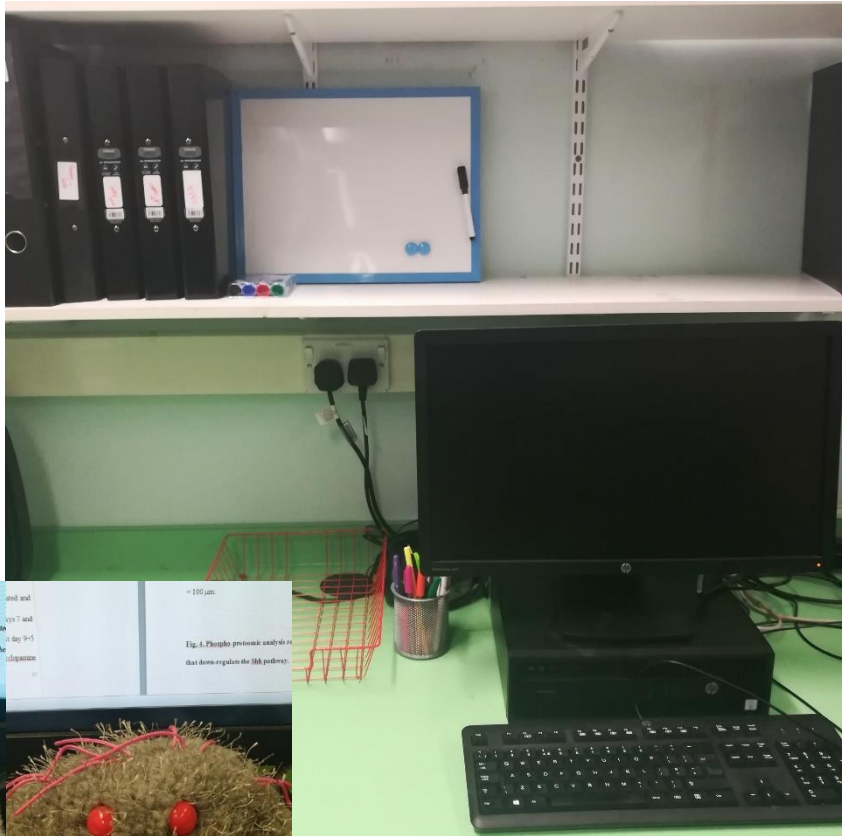
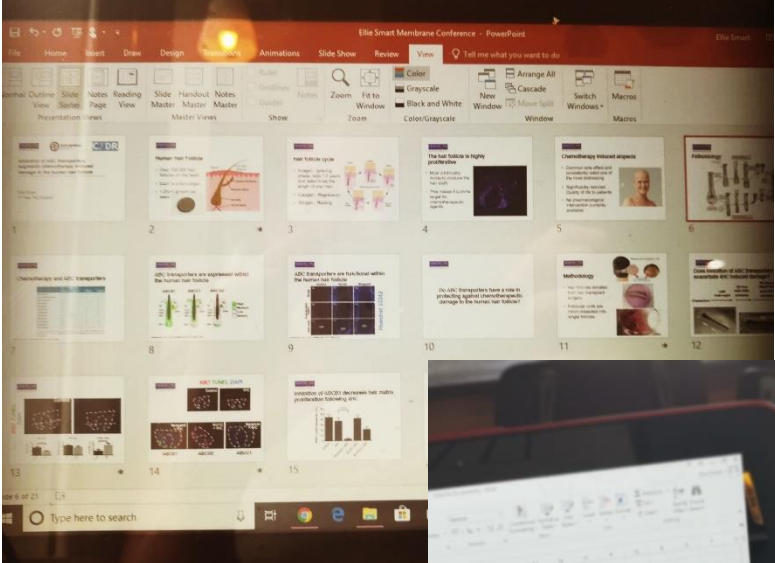
- 2010-2014 BSc Biomedical Sciences, University of Edinburgh
- 2014-2015 MScR Biomedical Sciences, University of Edinburgh
- 2015-now PhD in Medicine at University of Manchester



A day in the life – in the lab



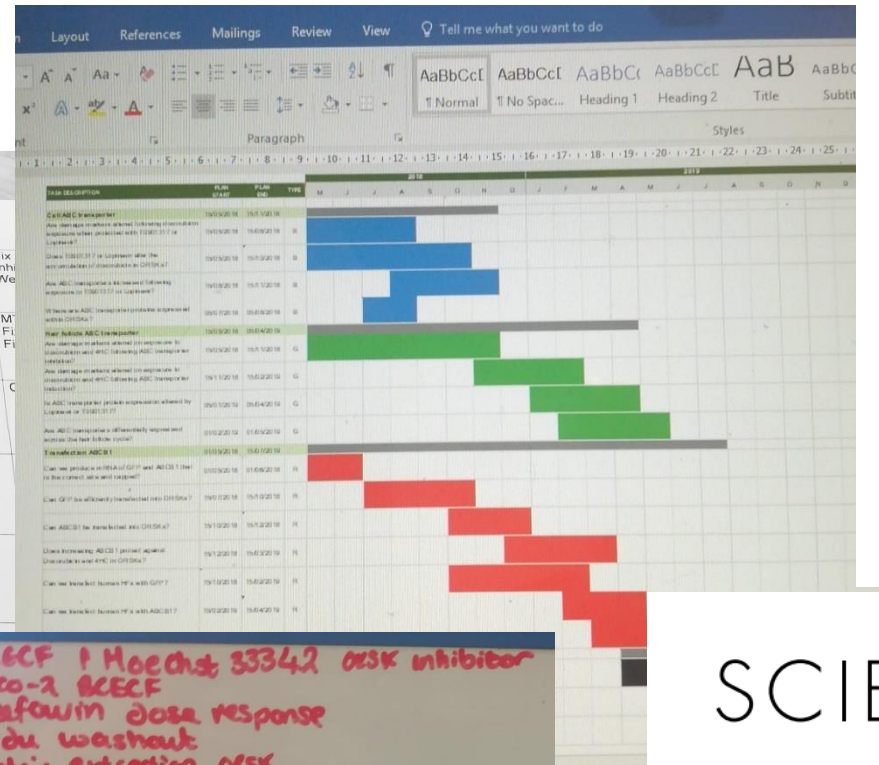
A day in the life- analysis



Managing a research project

Monday 2/7	GFP transfection DR P4
Tuesday 3/7	Cleaved Caspase-3 Day 1 Imaging yH2AX Transfect GFP - Reb P4 qIPand MTT Transfection DR P4
Wednesday 4/7	Cleaved Caspase-3 day 2 ABC1 and ABCC1 Immuno Caco-2 Protein extraction KM P2 qIP and MTT Transfection Reb P4 Rb P3 GFP imaging
Thursday 5/7	Inducers plated for yH2AX, TUNEL and DCF Day 2 ABC1 and ABCC1 Immuno Caco-2 Transfection GFP-KM P4
Friday 6/7	Inducers places for Inhibitors Docetaxel dose response Imaged Cleaved Caspase 3, ABC1 and ABCC1 IF Protein Extraction Fer P3 and DR P3 MTT Transfection GFP analysis Transfection Calcium bioidi
Saturday 7/7	Wash out Docetaxel
Sunday 8/7	MTT Docetaxel Doxorubicin add to yH2AX and TUNEL DCF Fluorescence

Monday 9/7	Fix Inhi We
Tuesday 10/7	M Fl Fl
Wednesday 11/7	C
Thursday 12/7	
Friday 13/7	
Saturday	
Sunday	



BCCF + Moesin 33342 oesK inhibitor
Caco-2 BCCF
Cefawin dose response
Edu washout
protein extraction oesK
HELA, MEX
Protection + inhibition MTT
with donor 3
qPCR THYROSINE
imaging C1 and G2
Section protection alone
ABC transporter expression
image MF protection
Dox yH2AX inhibitor analysis
High powered MF images
K167-TUNEL analysis Docetaxel
RNA extraction + qRT-PCR
Sequencing PCR product
re-run RNA transcription

A technique for more precise distinction between catagen and telogen human hair follicles ex vivo

To the Editor: Identifying human anagen hair follicles (HFs) ex vivo is readily accomplished by stereomicroscopic analysis. However, to reliably distinguish other hair cycle stages, namely late catagen and telogen, by stereomicroscopic analysis alone is difficult, and the gold standard remains histologic analysis, which obviously precludes their use for ex vivo culture.^{1,2} In this study, we sought to determine whether methylene blue, a staining that can be applied to living cells,³ helps to distinguish late catagen from telogen HFs intravitaly for subsequent organ culture, thus expanding translational preclinical research into these poorly investigated, but clinically important, human hair cycle stages.

Using follicular unit hair transplantation methodology (by grouping follicular units on the basis of the number of HFs they contain),⁴ we recorded the number of anagen, catagen, and telogen follicles found in 800 follicular units from 8 white male patients (100 follicular units/patient) undergoing a standardized follicular unit extraction hair transplant procedure, with informed patient consent. Because anagen VI follicles are easily identifiable,¹ only those

telogen HFs has been overestimated⁵ and suggest we should question the accepted standard percentages (80%-89% anagen, 10%-20% telogen, and 1%-5% catagen) in the literature, which were based on transversal histologic sections⁵ and phototrichograms, neither of which can definitively distinguish between late catagen and telogen HFs. Although, in our study, the HFs were from patients with androgenetic alopecia (AGA) and the ratio of anagen:catagen:telogen might differ in comparison with individuals without AGA, we believe that our data are unlikely to reflect sampling bias, as HFs were harvested from occipital scalp, generally unaffected by AGA. We propose that hair stage distribution in healthy human scalp needs a more systematic re-evaluation, including comparative studies with histologic sections. This is important when assessing candidate hair growth-modulating agents, considering minor shifts in the percentage of telogen or catagen HFs can result in major changes in the degree of visible effluvium.

Irene Hernandez, PhD,^a Majid Alam, PhD,^{a,b,c} Christopher Platt, PhD,^d Jonathan Hardman, PhD,^d Eleanor Smart, MSc,^d Enrique Poblet, MD,^e Marta Bertolini, PhD,^{c,f} Ralf Paus, MD,^{d,g} and Francisco Jimenez, MD^{a,b,h}

SCIENTIFIC REPORTS

OPEN

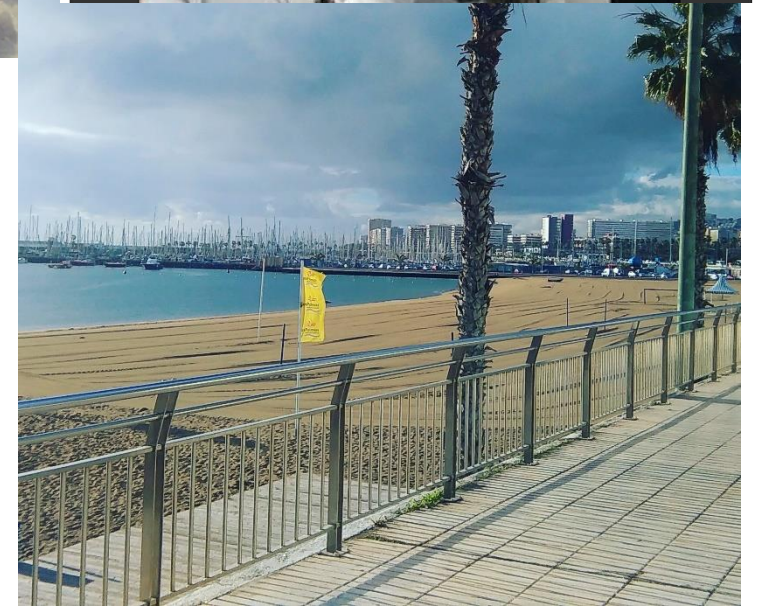
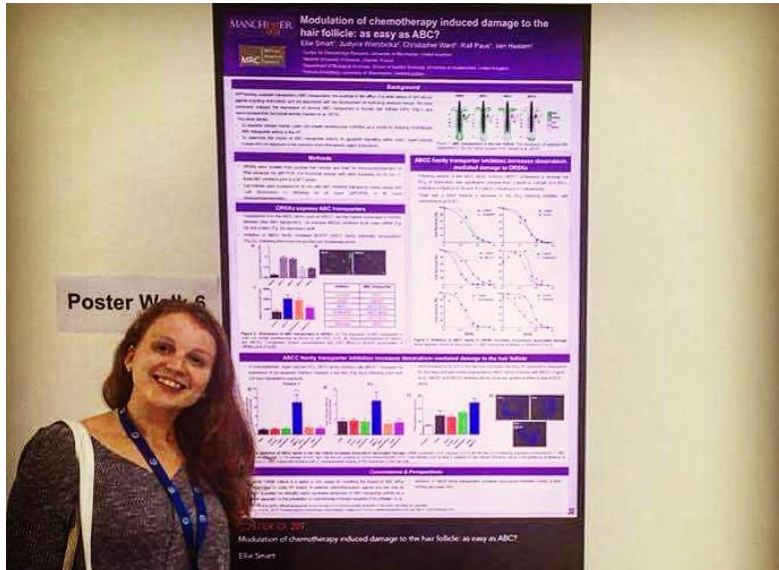
Chemotherapy drugs cyclophosphamide, cisplatin and doxorubicin induce germ cell loss in an *in vitro* model of the prepubertal testis

Ellie Smart^{1,3}, Federica Lopes¹, Siobhan Rice^{1,4}, Boglarka Nagy¹, Richard A. Anderson², Rod T. Mitchell² & Norah Spears¹

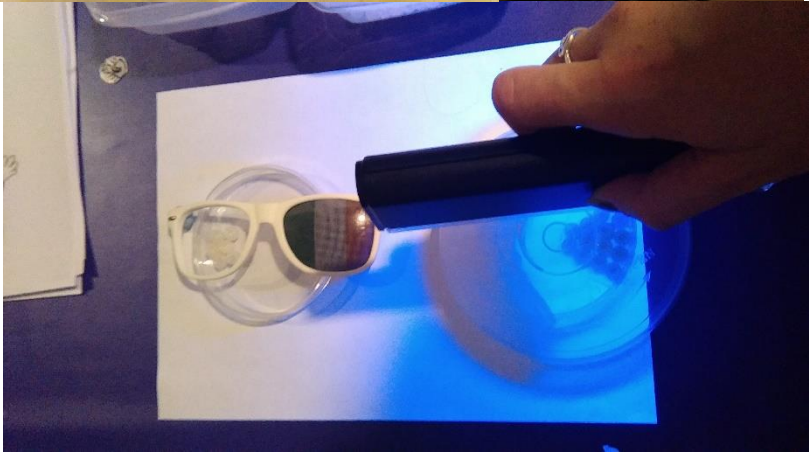
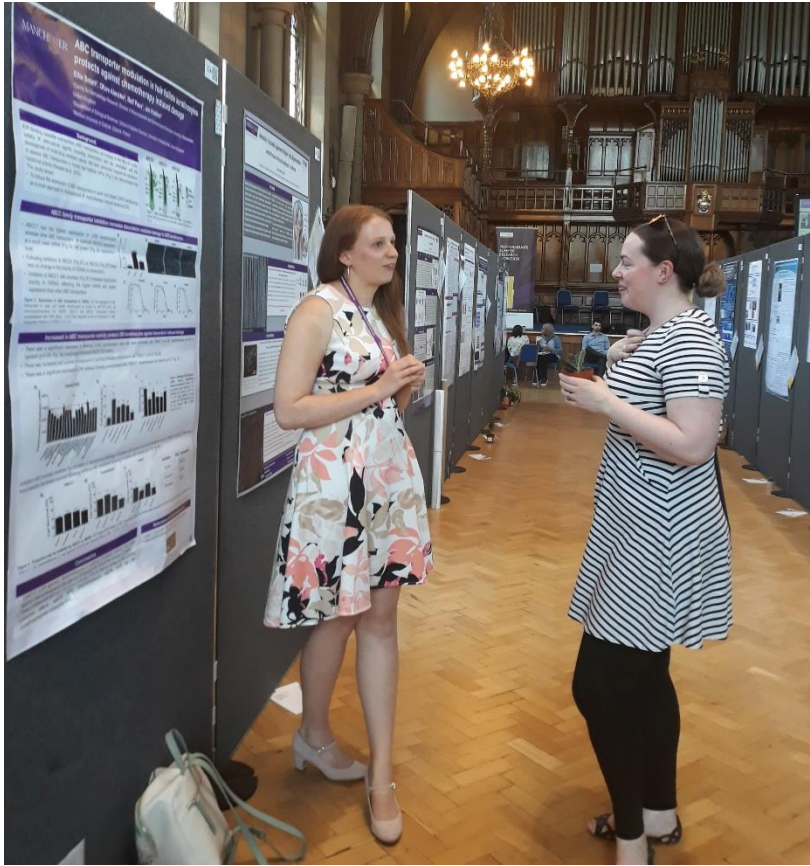
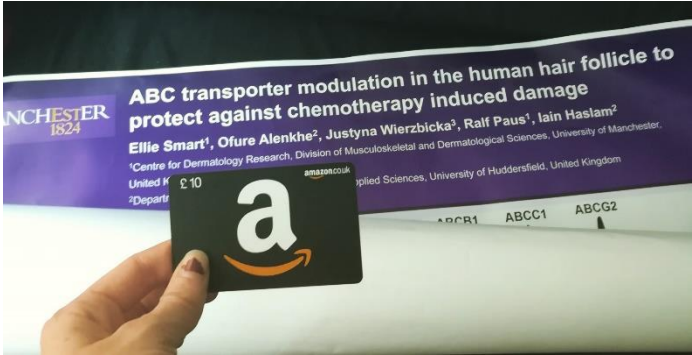
Received: 30 August 2017
Accepted: 22 December 2017
Published online: 29 January 2018

Opportunities - Travel

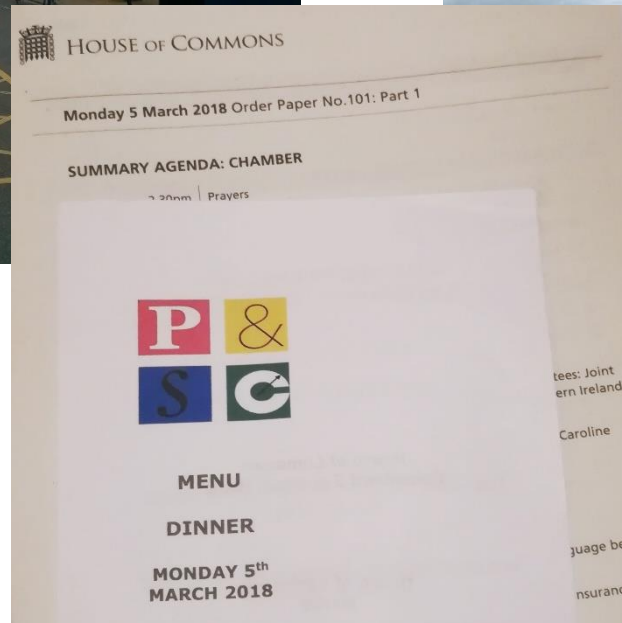
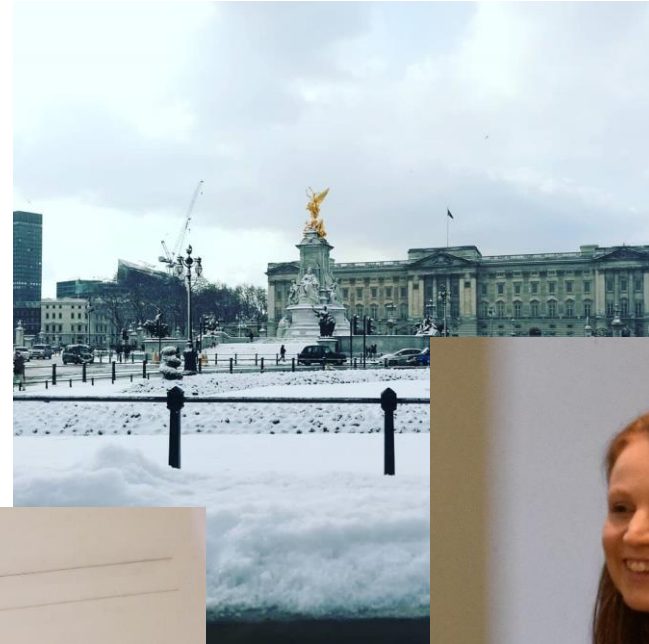
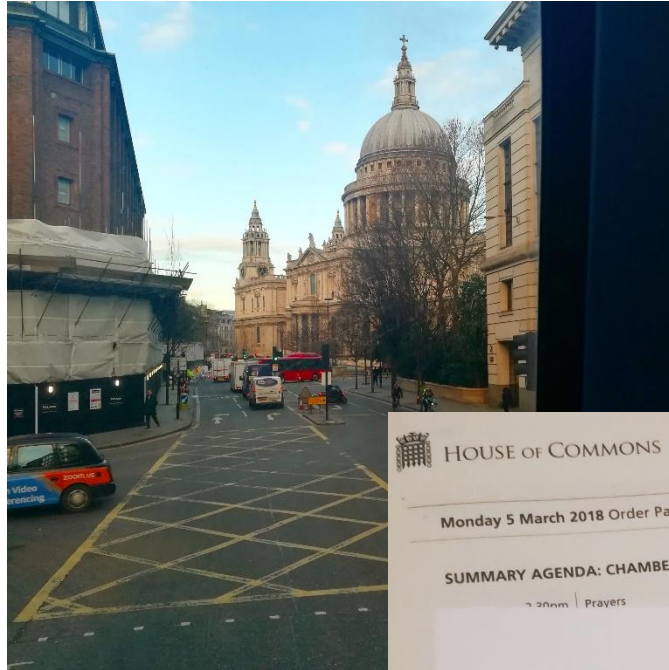
"Buscamos nuevas formas de proteger el folículo piloso"



Opportunities - Presentations



Opportunities – Placements






Challenges



Challenges



What do you need?

• Enthusiasm   

• Resilience  

• Independence   

• Communication  

