Alberto Scarampi del Cairo

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Objectives

BSc in "Biotechnology" , enthusiastic to undertake a BBSRC DTP PhD in Industrial Biotechnology and Bioenergy at the University of Cambridge. Particularly curious about photosynthesis and cyanobacteria.

Education

• **Imperial College London, UK** October 2016 - August 2019
Degree: BSc Biotechnology

Grade: First Class Honours, Usmami Prize in Biotechnology

- Year 3 (First Class - Dean's List): Plant Biotechnology and Development, Integrative Systems Biology, Synthetic Biology.

- Year 2 (First Class - Dean's List): Molecular Biochemistry, Genes and Genomes, Integrative Cell Biology, Protein Science, Topics in Biotechnology.

- Year 1 (First Class - Dean's List): Biological Chemistry, Cell Biology, Proteins and Enzymes, Molecular Biology (1st).

• **Liceo Scientifico "Galileo Ferraris", Turin, Italy** 2011 - 2016
Diploma di Esame di Stato (Final grade: 100/100)

- Chemistry (10/10), Biology (10/10), Mathematics (10/10), Physics (10/10), History (9/10), Philosophy (10/10), History of Art (9/10), Italian (9/10), German (9/10), Latin (9/10).

Laboratory Skills

• **Basic**: Aseptic techniques (*E. coli*, *S. cerevisiae*), Pipetting, Titration, Spectrophotometry, Light and Fluorescence microscopy

• **Biochemistry**: Ion-exchange, Gel filtration, Affinity and Reverse Phase Chromatography, SDS and Native PAGE, Immunodetection, Trypsin digestion, *Arabidopsis* GUS staining, MALDI TOF-TOF Mass Spectrometry.

• **Synthetic Biology**: Cell culturing, restriction enzyme digestion, DNA gel electrophoresis, making *E. coli* competent, *E. coli* transformation, PCR, Restriction Enzyme, BioBricks, Golden Gate and BASIC DNA assembly, cyclic voltammetry, amperommetry.

• **Computing/Bioinformatics:** R, Matlab and Python programming, sequence analysis (BLAST, ClustalO, PFAM, Phyre), molecular graphycs (PyMol), LaTeX.

Research Experience

• **UROP: BIOMOD Competition** July 2019 - October 2019
- Member of the Imperial College BIOMOD team 2019.

- Nanodips: Assembly of DNA nanopores

- Research outcome:

• **Research project: The Paradox of the Plankton** October 2016 - Present
- Bachelor thesis. Biophysics and computational biology.

- Thesis: spatial heterogeneity

• **Student Research Scientist** July 2018 - October 2018
iGEM Competition in Synthetic Biology, Imperial College Team *pixcell.org*

- Refined research and team work skills while working in the lab of Dr. Thomas Ouldridge and Dr. Rodrigo Ledesma-Amaro as part of the Imperial iGEM team 2018.

- In less than 3 months, developed the first synthetic biology toolkit that enables aerobic electronic control of gene expression.

- Designed and performed plate reader and cyclic voltammetry experiments to demonstrate electronic induction of GFP in liquid and solid cultures of engineered *E. coli*.

- Identified a non-toxic and cheap redox molecule able to act as inducer in electrogenetic devices.

- Constructed a library of electrogenetic parts using the next-generation BASIC DNA assembly method

Roles of Responsibility

• **President** November 2018 - July 2019
Imperial College Synthetic Biology Society (SynBIC) *synbic.com*

- Elected to run the largest university synbio society in the UK.

- Roles include liaising with academics and promoting the synbio community at Imperial.

• **Academic Representative** October 2018 - July 2019
Imperial College Union *imperialcollegeunion.org*

- Selected to represent biotechnology undergraduates in the department of life sciences.

- Roles include liaising with students and lecturers to improve the academic experience at Imperial College.

• **Treasurer** March 2018 - November 2018
SynBIC *synbic.com*

- Awarded a £1250 grant from the IC Enterprise Lab to organise the first SynBio competition at the Imperial Biohackspace.

• **Treasurer** March 2018 - October 2018
SynBio UK *synbiouk.com*

- Developed communication and interpersonal skills as part of the committee of the "federation" of synbio societies across UK universities.

- Collected £9000 from sponsors, which enabled to organise the largest UK-wide iGEM Meetup.

Awards and Achievements

• **Gold Medal** October 2018
iGEM Competition, Boston, USA. *iGEM.org*

- Awarded the highest medal criteria for the project "PixCell: electronic control of gene expression".

• **Dean's List, Faculty of Natural Sciences** 2017-2018 and 2016-2017

-The Deans List recognises the top 10% of students in each year cohort in each undergraduate programme (140 students) based on academic achievements.

• **Finalist** May 2016

National Olympiad of Philosophy, Rome, Italy *sfi.it*

- Awarded the third place (among 300) with an epistemological essay on Karl Popper.