Brooks J Rady
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OBJECTIVE

Seeking a research position in Molecular Biology and Biotechnology. Looking to contribute in either a dry or wet-lab environment and to pick up new skills by working closely with a professional in the field. Also open to work in computing or software development environments.

EDUCATION AND WORKSHOPS

The University of Sheffield (2018-Current)

First year student currently working towards an MEng in Bioengineering

Prospect Ridge Academy HS (2014-2018)

GPA: 4.741 (4.00)

Completed STEM Courses:

- AP Calculus BC
- AP Biology
- AP Computer Science
- AP Chemistry
- AP Physics C

4 Years of English
4 Years of Social Studies
3 Years of French

Workshops at Denver Biolabs

Covered basic biochemistry, the central dogma, and gene structure
Designed basic generic circuits using BioBricks
Practised sterile lab techniques and basic lab procedures
Deep dive into CRISPR and its applications
Speaker on clinical microbiology and microbe culturing

HONOURS AND AWARDS

National Honor Society (2017 & 2018)
Prospect Ridge Academy High Honor Roll (2015-2018)
Design award and Finalist Alliance at FTC State Championship (2017 & 2018)
Won 2nd in Junior Energy and Transportation at CSEF (2014)
Won 1st in Alternative Fuels at Denver Metro Science Fair (2014)
Linnaeus Award for Excellence in Biology (2018)
Hacker Award for Excellence in Computer Science (2018)
First Place Award for Senior Capstone Project (2018)
Best Communicated Solution during EWB Global Engineering Challenge (2019)

EXPERIENCE AND WORK

Avidity LLC (2016-2017)

Designed unique DNA tether and bridge sequences for use in biosensors
Directed evolution panning for peptides binding to a DNA-PNA hybrid target
Extensive work with sterile technique, solution calculations, and *E. Coli* culturing

Performed *E. Coli* transformation via electroporation and antibiotic based selection
Expressed in *P. Pastoris* and subsequently purified a mutant Gaussia Luciferase protein
Assessed Gaussia Luciferase activity using a Luminometer
Running protein gels to assess the purity of a protein sample
Designed a lateral flow assay on an aluminium surface

SKILLS

Biotechnology

Biotech lab procedures (PCR, Electrophoresis, Restriction Enzyme Digests, etc.)
Chemical calculations and reagent preparation
Bacterial plasmid design
DNA primer / tether design
Sterile Technique
In *vivo* expression of foreign proteins
Bacterial and Yeast transformation

Computing

Extensive experience with Linux and Windows operating systems
Fluent in LATEX, R, Haskell, Rust, Elixir, LISP, Java, HTML, CSS, and JavaScript
Full Stack Web, Data Processing, and Machine Learning experience
Extensive experience with VCS and contributing to open source
Worked with computational biology tools such as Benchling and IDT OligoAnalyzer

Language / Communication

Experience with reading scientific papers
Essay and report writing experience
Public speaking and presentation experience

PROJECTS, PRESENTATIONS, AND PAPERS

In Vivo Detection and Signalling of Arbitrary DNA Sequences

Link - http://bit.ly/2t2BjrA

Honours Physics "Build a Planet" Project

Link - http://bit.ly/2IA9f5F

FTC_HTTP: An Application for Easily Programming FTC Robots

Link - http://bit.ly/ftc_http
Link - http://bit.ly/ftc_http_video

The Regicide of the Fisher King

Link - http://bit.ly/2FHoYSy

Pokéstats — What Type Of Pokemon Is The Match For You?

Link - http://bit.ly/2FVjMqh

The Effect of Varying Lamp Emission Spectra on the Rate of Photosynthesis

Link - http://bit.ly/2HCx2QU

EXTRACURRICULARS AND SERVICE

Founding member of the Prospect Ridge Academy Robotics Club
Parted-out and built around ten desktop computers for personal use or for family and friends
Designed and maintained a web application for managing student activities and clubs
Developed and shared a tool for wirelessly updating robot code for the FTC competition
Created and taught a class on robot programming to prepare the underclassmen to carry the torch
Taken up photography — blending technical knowledge with artistic intent