

Public Engagement Fund Application Form

Thank you for your interest in applying to the Doctoral School's Public Engagement Fund.

Applications are invited from University of Sussex doctoral researchers and early career research staff for small grants of up to £750 per activity.

The deadline for applications is 28th February 2018.

Please ensure that you have read the guidance notes before completing your application.

1. Name

First

Last

2. Sussex e-mail address

3. Contact telephone number

4. School and department of lead applicant

5. Are you a doctoral researcher or early career research staff?

About the activity

Please tell us about the purpose of the public engagement activity.

You may select any or all of the options below. Please explain your rationale when prompted.

6. Is the purpose of your activity to inform and inspire the public?

Yes No

Activities designed to inform and inspire will have a dissemination function, inspiring, informing, educating and making your research more accessible. Possible activities might include participation in festivals, interactive talks and shows, films and animations.

6a. Please explain your rationale

7. Is the purpose of your activity to consult and listen to public views?

Yes No

Consultation activities will involve listening to the public's views and concerns about your research, and providing an opportunity to gain fresh perspectives and insights into your work. Possible activities might include public debates, online consultations, panels and user-groups.

7b. Please explain your rationale

The direct interaction with students and teachers will provide the opportunity to get continuous feedback on how to develop the project further. Working with small groups will also allow fruitful discussion on the science behind the project and might open up new aspects that could improve our research.

8. Is the purpose of your activity to collaborate with the public?

Yes No

Here researchers and the public work together on projects. The public help to define your future research directions, policy or the implementation of your research outcomes. Possible activities might include citizen sciences, co-production of knowledge.

8b. Please explain your rationale

During the proposed project we will work together with year 12 students who will carry out an assay using yeast as a model system to study the role of different proteins in genome stability. We also set up a citizen science game on the Zooniverse web portal to invite younger students as well to help us with the analysis of the data generated by the year 12 students. Together this collaboration with the students will produce valuable information which can then be followed up through our research projects.

9. Why do you want to engage with the public? What do you hope to achieve by engaging?

During my career, I have been involved in various forms of public engagements from participating in open days to being involved in science festivals. I always felt that these activities were not only useful for the public to get involved and gain more information on a wide spectrum of scientific areas, but also helped me develop my skills in presentation, communication and networking. The proposed activity will be a new experience for me as it involves working together with the public to gain data with their help, which I am sure will not be without challenges and will contribute to my personal development in collaborating with young people outside academia. The project also involves data analysis with the help of a citizen science web platform (Zooniverse) which will require learning and developing methods to accommodate this new and innovative way of data collection and processing. Altogether, I feel that this is an exciting opportunity for me to gain transferable skills and experiences that will help me with my further career. This project will also provide data for our ongoing research.

10. What are the objectives of the activity? Please list the steps you will take to achieve these objectives.

Our group leader, [REDACTED] set up this project where we are seeking to collaborate with 12th year students who will carry out a simple and established assay to determine the genetic stability of different yeast strains where a protein of interest is mutated. In this assay, yeast cells are plated out and the colour change of the colonies is an indicator of genetic instability within the strain. The results will be analysed by counting the different colour patterns of the colonies. As many colonies are needed to be counted and the distinction of certain patterns are not always straightforward we ask the students to take pictures of the plates which we can upload to a citizen scientist web portal (Zooniverse) where we set up a game where students can identify the different colony colour patterns. These data can then be analysed and be a part of our research project. Altogether, this project has multiple objectives. 1. Engage 12th year students with an actual science research project which they can conduct themselves and can gain knowledge about genetic stability. 2. With the citizen scientist part of the project, we are aiming to also involve younger students who can participate in the project by playing the game on the Zooniverse platform. Once it is established, this part can also be opened to the wider general public. 3. Gain data for our ongoing research on genome stability. So far, we have established a link between two schools and started evaluating the feasibility of the project. We are now seeking to train four 3rd year undergraduates to go to schools and teach the students to carry out the assay. This way we can engage more students. To achieve this however, we need some basic equipment (pipettes) that the students can use during the experimental work. We have already set up the online citizen scientist project and are testing with a handful of students how the data analysis can be performed. I personally am involved mostly in this part of the project by designing and maintaining the website, uploading the pictures and developing tools for analysing the data.

11. How will you evaluate whether you have achieved the objectives of the activity?

We have continuous feedback from the teachers and the students, which already proved invaluable for us to optimize the methods in both the experimental part and the online side of the project. We also plan to carry out an end of year questionnaire to help us evaluate the success of the project. This will be filled in both by the students and the teachers.

12. Who are your target audience/participants and how many people do you expect to engage with?

At present, we have a link with two schools with the involvement of eight students. We would like to expand our reach by training four 3rd year undergraduate students each could take over one or two groups of students increasing the number to around 16-32 students and 4-8 teachers. The online side of the project will initially involve these students and also younger students from the same schools but once established it can be opened up for the public which can attract many more people as Zooniverse is the most popular people-powered research platform with thousands of volunteers.

13. What is the timeline of the project? Please include start and end dates, and key milestones.

We are aiming to train the undergraduate students during the summer period so they can start their work in September 2018 and the project will run until the end of the year (24th September 2018) when we evaluate its success. If we find that it is sustainable and successful we can plan to continue and possibly extend the project to more and more schools.

14. How does the suggested project relate to your own research? Please indicate how the activity will benefit yourself and your research.

This project will not only generate data that we can directly use in our research but its analysis will require me to develop a number of new skills. Apart from learning how to communicate with people from outside academia, the design and maintenance of the citizen scientist project is providing me some experience in basic html syntaxes, how to prepare and upload pictures and download data. The analysis of these datasets will require the development of bespoke tools, which will improve my bioinformatics skills.

15. What is the potential legacy of the project?

The project will give the opportunity for a number of 12th year students to try hands –on experiments related to real ongoing research. This can be an inspiration for them that might direct them to choose STEM subjects when they continue their studies at higher level. They will also learn how to analyse and interpret their data, which will develop their scientific reasoning. The project also directly promotes the University of Sussex to the students who might then choose our university for their further studies. If the project proves to be sustainable and successful, it can be set up as a continuous interaction with schools in the future inviting more and more students to have a try with research experiments.

16. Please outline your public engagement experience to date

Since joining the Genome Damage and Stability Centre in 2013, I have been involved in various public engagement activities. I helped at the GDSC open day in 2013, I demonstrated to 5-10 years old children about genetic inheritance at the Brighton Science Festival in 2016 and 2018 and DNA extraction from strawberries at the Lewes Science Festival (2016). We also presented the project proposed here at the public engagement showcase for the School of Life Sciences and I am currently leading the online side of the activity. At present, I am representing the GDSC on the Life Sciences Engagement and Communication Committee. I am also attending meetings promoting LGBT+ STEM scientists and our group was recently awarded the Diversity in Science grant.

17. Budget

Please provide a detailed budget indicating what you would spend the funding on if you are successful in your application.

Please note that the maximum amount of funding you can apply for is £750 per activity.

Budget details

Item details	£
Reconditioned 200ul Gilson Classic pipette (quote valid until 30th of April)	£400.00
Reconditioned 1000ul Gilson Classic pipette (quote valid until 30th of April)	£350.00

Total: £750.00

Total requested from the Public Engagement Fund
£750.00

18. Budget code

RE009-20

Please enter a budget code to which funds should be transferred if you are successful in your application. Please contact the Research and Enterprise Co-ordinator for your School if you are not sure which budget code to use.

19. Supporting statement

Please submit a supporting statement (in PDF format) from your supervisor (for doctoral researchers) or the relevant Principal Investigator (for research staff).

The supervisor/PI's name, title and electronic signature should also be included in the statement you submit.

If you have any difficulty with this, please contact researcher-development@sussex.ac.uk.

Upload your supporting statement here

Supporting_letter_██████████.pdf