



THE POST

College:	CLES
Post:	Postdoctoral Research Fellow
Reference No:	P65960
Grade:	F
HERA:	RFEL
Reporting To:	Edze Westra

Responsible For: Designing and executing selection and evolution experiments with *Bacillus subtilis* and their SPbeta phages to understand the benefits and evolutionary stability of phage communication systems (known as "Arbitrium"; Erez et al Nature 2017). The PDRA will also be responsible for data analysis and interpretation, and writing manuscripts. The work will be carried out under direct supervision of Dr Edze Westra and with input from Profs. Angus Buckling, Sylvain Gandon, Rotem Sorek and Kai Papenfort.

The above full time post is available 1 April 2019 until 30 September 2020 in the College of Life and Environmental Sciences. Start dates can be negotiated as appropriate.

Job Description

Main purpose of the job:

Many viruses can employ two types of life styles: lytic, where they replicate in infected cells to generate new virions; and dormant (or latent, or lysogenic), where they remain silent following infection and wait for a future opportunity to become lytic. In every infection, viruses must "decide" whether to employ the lytic or lysogenic cycle, but the principles governing this decision are largely unknown. A recent discovery by one of our team members (Sorek) showed that certain phages (viruses that infect bacteria) use small-molecule communication to coordinate infection dynamics and "decide" between the lytic and lysogenic cycles (Erez et al, Nature 2017). The goal of this project is to understand the principles governing the evolution and utilization of molecular communication for dormancy decisions among viruses. Understanding this radically new paradigm in virology necessitates interdisciplinary thinking and experimental capacity in multiple fields. In accordance, the team combines strong expertise in genomics and molecular microbiology (Sorek, Papenfort), short-term selection and microbial ecology (Westra), long-term experimental evolution (Buckling) and mathematical modeling (Gandon). The postdoctoral researcher will study the costs and benefits of inter-viral communication, and the long-term evolutionary outcome for the virus and the host. There may be opportunities to apply for extension of the contract depending on the outcome of current and future grant applications.

Main duties and accountabilities:

1. To undertake research as appropriate to the field of study. The responsibilities may include all or some of the following:
 - Acting as principal investigator on research projects;
 - Developing research objectives, projects and proposals;
 - Conducting individual or collaborative research projects;
 - Identifying sources of funding and contributing to the process of securing funds;
 - Extending, transforming and applying knowledge acquired from scholarship to research and appropriate external activities;

- Writing or contributing to publications or disseminating research findings using media appropriate to the discipline;
 - Making presentations at conferences or exhibiting work in other appropriate events;
 - Assessing, interpreting and evaluating outcomes of research;
 - Developing new concepts and ideas to extend intellectual understanding;
 - Resolving problems of meeting research objectives and deadlines;
 - Developing ideas for generating income and promoting research area;
 - Developing ideas for application of research outcomes;
 - Deciding on /following research programmes and methodologies, often in collaboration with colleagues and sometimes subject to the approval of the head of the research programme on fundamental issues.
2. To contribute to teaching and learning programmes in the School and to supervise postgraduate research students.
3. To act as research team leader including:
- Mentoring colleagues with less experience and advising on their professional development;
 - Coaching and supporting colleagues in developing their research techniques;
 - Supervising the work of others, for example in research teams or projects;
 - Developing productive working relationships with other members of staff;
 - Co-ordinating the work of colleagues to ensure equitable access to resources and facilities;
 - Dealing with standard problems and help colleagues to resolve their concerns about progress in research.
4. To routinely communicate complex and conceptual ideas to those with limited knowledge as well as to peers using high level skills and a range of media and to present the results of scientific research to sponsors and at conferences.
5. As determined by the nature of the project and at the direction of the PI, to plan, co-ordinate and implement research programme activity including:
- Managing the use of research resources and ensuring that effective use is made of them;
 - Monitoring and reporting on the use of research budgets;
 - Helping to plan and implement commercial and consultancy activities;
 - Where appropriate, to plan and manage own consultancy assignments.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Fellow role profiles.

Person Specification

Competency	Essential	Desirable
Attainments/Qualifications	PhD or equivalent qualification/experience in a related field of study.	Be a nationally recognised authority in the subject area, with several first and co-authorships in reputable journals.
Skills and Understanding	Possess sufficient specialist knowledge in the discipline to develop/follow research programmes and methodologies. Record of research output in high quality publications.	Experience working with phages.
Prior Experience	Experience of managing research projects and research teams.	Experience of undergraduate /postgraduate teaching and supervision. Experience of acting as principal investigator on research projects.
Behavioural Characteristics	Excellent written and verbal	Able to identify sources of funding,

	<p>communication skills. Able to communicate complex and conceptual ideas to a range of groups. Evidence of the ability to collaborate actively within the Institution and externally to complete research projects and advance thinking. Able to participate in and develop external networks. Able to balance the pressures of research, administrative demands and competing deadlines.</p>	<p>generate income, obtain consultancy projects, or build relationships for future activities.</p>
Circumstances		

Informal Enquiries

Before submitting an application you may wish to discuss the post further by contacting Associate Professor Edze Westra, by email E.R.Westra@exeter.ac.uk.

Terms & Conditions

Our Terms and Conditions of Employment can be viewed [here](#).

Further Information

Please see our [website](#) for further information on working at the University of Exeter.