THE POST

College:	**Life and Environmental Sciences http://lifesciences.exeter.ac.uk/**
Post:	**Associate Research Fellow**
Reference No:	**P44443**
Grade:	**E**
HERA:	**ARF**
Reporting To:	**Dr Frederick Verbruggen**

The above full-time post is available from 1 March 2013 to 29 February 2016 in the College of Life and Environmental Sciences. The start date is negotiable.

Job Description

A post-doctoral research position is available for 3 years, funded by an ERC (European Research Council) starter grant. The expectation is that this postdoctoral Fellowship will, in the normal course of events, lead to the candidate being considered for a permanent position in the College of Life and Environmental Sciences at the University of Exeter.

Research topic: Translation of basic research on human executive control into facilitating behavioural change is a holy grail for psychologists and neuroscientists. Adaptive behaviour is attributed to executive functions that update the cognitive system. But *how* executive updating mechanisms regulate behavioural change is still unclear. This stems from a lack of careful process analysis and a failure to integrate findings from different research areas.

The project will focus on developing a unified account of updating and behavioural change. A starting point is the hypothesis that three well-defined cognitive processes (detection-selection-implementation) underlie all forms of updating (Verbruggen, Aron, Stevens, Chambers, 2010; PNAS); each component may be influenced by preparation or practice. This will be tested by using carefully designed behavioural paradigms and by integrating techniques such as neurostimulation (TMS and tDCS), EEG, and mathematical modelling of decision-making to specify how updating occurs and how variation in the effectiveness of updating arises.

The project aims to synthesise work in cognitive, clinical, and social psychology, cognitive neuroscience, and neurobiology; and by providing novel important insights into the substrates of the executive control of updating, contribute to a better understanding of the many disorders associated with control deficits, and of human behaviour in general.

The research will be conducted in the Centre for Cognitive Control and Associative Learning (ccal-exeter.org) at the University of Exeter.

Main purpose of the job:

This project will require a background in cognitive/experimental psychology, a good knowledge of the executive/attentional control literature, and knowledge of the neuroscience techniques TMS and EEG. The ARF will be responsible for or contribute to: the development of experiments (in collaboration with the research team), collection and analysis of behavioural and neuroscience data, and the publication and dissemination of the results. The ARF will also be involved in the supervision of research assistants, MSc and PhD students.

Main duties and accountabilities:

1. To undertake research as appropriate to the field of study including:

- Acting as co-investigator on research projects;
- Writing up research work for publication;
- Developing research objectives and proposals;
- Making presentations at national and international conferences and similar events;
- Dealing with problems which may affect the achievement of research objectives and deadlines;
- Analysing and interpreting the results of research and generating original ideas based on outcomes;
- Using new research techniques and methods;
- Using initiative and creativity to identify areas for research, developing new research methods and extending the research portfolio;
- Using creativity to analyse and interpret research data and draw conclusions on the outcomes.

2. To contribute to teaching and to be involved in the assessment of student knowledge including assisting in the supervision of student projects and in the development of student research skills.

3. To work in collaboration with colleagues as appropriate to the field of study including:

- Contributing to collaborative decision making within the research group;
- Contributing to the production of collaborative research reports and publications.
- Preparing papers and presenting information on research progress and outcomes to bodies supervising research, e.g. steering groups.

4. To communicate complex information, orally, in writing and electronically.

5. To prepare proposals and applications to external bodies, e.g. for funding and contractual purposes

6. To contribute to the planning of research projects.

7. To use research resources, laboratories and workshops as appropriate and to take responsibility for conducting risk assessments, reducing hazards and for the health and safety of others.

8. To monitor research budgets as appropriate.

9. To engage in continuous professional development and to be responsible for continually updating knowledge and understanding in field of study or specialism and for developing skills.

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 in a related field of study.	
Skills and Understanding	Sufficient knowledge in the discipline and of research methods and techniques to work within established research programmes. Record of research output in internationally recognised publications. Good Matlab programming skills. Experience of analysing EEG data.	Good knowledge of R. TMS experience.
Prior Experience	Experience of conducting research under strict deadlines.	Experience of undergraduate teaching.

		Experience of acting as principal investigator on research projects.
Behavioural Characteristics	Excellent written and verbal communication skills. Able to communicate material of a specialist or highly technical nature. Able to manage research and administrative activities and to balance the competing pressures of research and administrative demands and deadlines. Able to liaise with colleagues and students. Able to build contacts and participate in internal and external networks for the exchange of information and collaboration. Able to identify potential sources of funding. Actively participate as a member of a research team Engage in continuous professional development. Understand equal opportunity issues as they may impact on areas of research content	
Circumstances		

THE POST

College:	**Life and Environmental Sciences http://lifesciences.exeter.ac.uk/**
Post:	**Research Fellow**
Reference No:	**P44443**
Grade:	**F**
HERA:	**RFEL**
Reporting To:	**Dr Frederick Verbruggen**

The above full-time post is available from 1 March 2013 to 29 February 2016 in the College of Life and Environmental Sciences. The start date is negotiable.

Job Description

A post-doctoral research position is available for 3 years, funded by an ERC (European Research Council) starter grant. The expectation is that this postdoctoral Fellowship will, in the normal course of events, lead to the candidate being considered for a permanent position in the College of Life and Environmental Sciences at the University of Exeter.

Research topic: Translation of basic research on human executive control into facilitating behavioural change is a holy grail for psychologists and neuroscientists. Adaptive behaviour is attributed to executive functions that update the cognitive system. But *how* executive updating mechanisms regulate behavioural change is still unclear. This stems from a lack of careful process analysis and a failure to integrate findings from different research areas.

The project will focus on developing a unified account of updating and behavioural change. A starting point is the hypothesis that three well-defined cognitive processes (detection-selection-implementation) underlie all forms of updating (Verbruggen, Aron, Stevens, Chambers, 2010; PNAS); each component may be influenced by preparation or practice. This will be tested by using carefully designed behavioural paradigms and by integrating techniques such as neurostimulation (TMS and tDCS), EEG, and mathematical modelling of decision-making to specify how updating occurs and how variation in the effectiveness of updating arises.

The project aims to synthesise work in cognitive, clinical, and social psychology, cognitive neuroscience, and neurobiology; and by providing novel important insights into the substrates of the executive control of updating, contribute to a better understanding of the many disorders associated with control deficits, and of human behaviour in general.

The research will be conducted in the Centre for Cognitive Control and Associative Learning (ccal-exeter.org) at the University of Exeter.

Main purpose of the job:

This project will require a background in cognitive/experimental psychology, a good knowledge of the executive/attentional control literature, and knowledge of the neuroscience techniques TMS and EEG. The RF will be responsible for the development of experiments (in collaboration with the research team), collection and analysis of behavioural and neuroscience data, and the publication and dissemination of the results. The RF will also be involved in the supervision of research assistants, MSc and PhD students.

Main duties and accountabilities:

1. To undertake research as appropriate to the field of study including:

- Acting as co-investigator on research projects;
- Developing research objectives, projects and proposals;
- Conducting 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 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. To plan, co-ordinate and implement research programmes including:

- Managing the use of research resources and ensure that effective use is made of them;
- Managing research budgets;
- Helping to plan and implement commercial and consultancy activities;
- Planning and managing 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 in a related field of study.	Be a nationally recognised authority in the subject area.
Skills and Understanding	Possess sufficient specialist knowledge in the discipline to develop research programmes and methodologies. Record of research output in internationally recognised publications. Good Matlab programming skills. Experience of analysing EEG	Good knowledge of R. TMS experience.

	data.	
Prior Experience	Experience of teaching at undergraduate level. Experience of managing research projects and research teams.	Experience of postgraduate teaching and supervision. Experience of acting as principal investigator on research projects. Successful in obtaining grant funding.
Behavioural Characteristics	Excellent written and verbal 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 identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities. Able to balance the pressures of research, administrative demands and competing deadlines.	
Circumstances		