York Open Research Awards

Our York Open Research Awards scheme provides an inclusive opportunity to celebrate projects and advocacy initiatives across a variety of disciplines, recognising work which encourages dialogue, reflection and broader thinking about some of the issues involved in open research and its implementation.

The 2022 awards were organised in collaboration between the University Open Research Advocates, Operations and Strategy Groups, with support from UKRI Research England funding to enhance research culture. Each awardee will receive a prize of £200 and we are working with them to develop advocacy and training materials based on their work. We have also shared some thoughts on running this year's awards scheme in this University Library blog post.

Overview of 2022 Awardees:

(Presented alphabetically by faculty, then title)

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<th>Arts and Humanities</th>
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<td><strong>Title of project or initiative</strong></td>
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<td>Aspectus: A Journal for Visual Culture</td>
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Aspectus was founded in 2018 as an open access professional outlet for members of the postgraduate History of Art Community. Its editorial board are committed to contributing to the larger academic discussion of their discipline in a way that does not privilege economic status or university affiliation, and so are committed to the open access model and the principles of equality through access. The journal has been exceptionally well-received by the wider art history research community, receiving over 10,000 views since the first issue was released.

The Aspectus editorial board members are proud to work with an academic journal that enables scholars to share their findings within a larger research network without being subject to article processing charges or other fees now often associated with publication, an unattainable model for the vast majority of early career researchers.

This project was also presented as a lightning talk at our York Open Research: Two Years On event
Teaching Early Modern Recipes and Manuscript Cultures grew as a satellite project to the 'transcribathons' offered by the Early Modern Recipes Online Collective (EMROC). These are day-long collective efforts to read, transcribe, and encode recipes for food and medicine from a selection of manuscripts in the Wellcome Collection and the library of the Royal College of Physicians.

Grace and Emma set out to create a formal framework for colleagues to use both at York and in other institutions to host their own ‘mini-transcribathons’, in order to introduce beginners to working digitally with manuscripts and to facilitate intergenerational academic collaboration. They aimed to reconnect researchers feeling isolated during the COVID-19 pandemic, and encourage students to take part in the cutting-edge scholarship underway on early modern recipe books at York and internationally.
The researchers aimed to create a toolkit for getting undergraduates ready for transcribing, and planned a small event in November 2021 to test out their newly compiled materials. The main objective was to ensure that the materials could be reused and reproduced, and that they were accessible to an audience with no previous expertise in manuscript transcription. The positive reception of this initial event inspired them to propose a re-run for the Centre for Lifelong Learning in autumn 2022, which will bring manuscript recipes to an even wider public audience. They have submitted a reflection on the pedagogical aims of this project for journal publication, and hope that their success will encourage colleagues to put together similar projects in their own institutions.

This project was also presented as a poster at our York Open Research: Two Years On event (click to enlarge):
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2 Recipes...s(1).pdf
| Evaluating how connectopic mapping reveals visual field maps in primary visual cortex | Dr David Watson, Research Associate, Psychology  
Prof Timothy Andrews (Supervisor) | The researchers conducted a project using publicly available MRI datasets to investigate how connectopic mapping techniques may be used to reveal functional gradients in human primary visual cortex during movie watching. This project comprised an initial exploratory investigation of data from one publicly available resource ([StudForrest](https://osf.io/5vupk/)) and the researchers are now conducting a preregistered replication using a second independent dataset obtained from the Human Connectome Project. They have made all the analysis code publicly available on OSF and the research design and analysis plan have been strengthened by feedback provided through the registered report peer review process.

The researchers' positive experience with this process has encouraged other members of the lab, including postgraduate researchers, to adopt similar open research practices. |

^ Screenshot from the OSF page, 'An evaluation of how connectopic field maps in V1' ([https://osf.io/5vupk/](https://osf.io/5vupk/)). Credit: Project content © 2022 David Watson (software and associated documentation released under an MIT License); web layout © 2011-2022 Open Science.
INCHEM-Py

David Shaw, Research Associate, Environment and Geography

Prof Nicola Carslaw

The development of this model has been funded by a grant from the Alfred P. Sloan Foundation, grant number 2018-10083. Conclusions reached or positions taken by researchers or other grantees represent the views of the grantees themselves and not those of the Alfred P. Sloan Foundation or its trustees, officers, or staff.

INCHEM-Py is an open-source box model for solving indoor air chemistry with time. From review to release the model has been focused on being open and accessible (GitHub link). It has a strong copy left licence meaning that anybody may use, develop, and extract from the model, but must then must also publish anything they do with it under the same open licence.

The software was submitted to the Journal of Open Source Software which advocates for open research practices and performs open reviews of submitted works.

INCHEM-Py is currently being used by multiple research groups at multiple universities, including PhD and Masters level projects.

[^ Screenshot from the GitHub repository page for INCHEM-Py (https://github.com/DrDaveShaw). Credit: © 2022 David Shaw and Nicola Carslaw (software released under a GNU General Public Licence 3.0); web layout © 2022 GitHub, Inc.]
As a software engineer, Vlad believes that data and tools should be openly available to the scientific community and created with scalability in mind. Throughout the years researchers in the Jack Birch Unit group (JBU, Biology) have generated multiple datasets containing gene expression, but there has not been a centralised tool to visualise and compare the gene data. As a result, Vlad has developed a web app using Python that allows the researchers to compare the gene expression from various datasets between different tissue types and other metadata. The tool was designed with scalability & maintainability in mind, making it easy to add new datasets and improve the graphs and the stats displayed.

The tool is still in a testing phase, but it will be released openly to the general public once stable.

This project was also presented as a lightning talk at our York Open Research: Two Years On event.

^ Image to illustrate two parts of the prototype JBU Ungureanu
This project explores and engages with a wide range of open research practices, including a positive control pilot study, conducting a priori power analyses, preregistering the study with explicit statements about blinding and exploratory analysis (OSF link), and planning to deposit all data in an accessible online repository. These practices were discussed in the wider psychology community through presentation of the project and preregistration at a lab group meeting, engaging discussion about open research practices with colleges from within the University and from other UK institutions. The project also addresses some of the barriers facing open research practices in psychology specifically, such as including statistical tests that do not suffer from reduced statistical power, and implementing positive control measures to address the wider replicability issue within research.
Kirralise plans to conduct a second research project that will be based off this study, looking at the effect of the illusion in chronic pain participants, as a registered report, to participate further in open science research practices at the publication stage.

This project was also as a poster at our York Open Research: Two Years On event (click to enlarge):

^ Screenshot from the EPS conference poster presentation, 'Number Processing in Bilinguals: Does a discrepancy in number systems between a bilingual’s first and second language influence number processing?' (https://www.youtube.com/watch?v=KAngela de Bruin & Silke Goebel.

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<tr>
<th>Number Processing in Bilinguals: Does a discrepancy in number systems between a bilingual’s first and second language influence number processing?</th>
<th>Veniamin Shiron, Undergraduate Student, Psychology</th>
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<tr>
<td>Dr Silke Goebel, Dr Angela de Bruin</td>
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<tr>
<td>Supported by an Experimental Psychological Society Undergraduate Summer Research Bursary</td>
<td>In order to follow the most transparent research practices, the researchers spent the first few weeks of this project solely working on writing the preregistration and publishing it on OSF. This is an extremely important component as it requires in-depth descriptions of most aspects related to the project, which will later allow for replication of findings.</td>
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^ Screenshot from the EPS conference poster presentation, 'Number Processing in Bilinguals: Does a discrepancy in number systems between a bilingual’s first and second language influence number processing?' (https://www.youtube.com/watch?v=KAngela de Bruin & Silke Goebel.

Kirralise ...Poster.pdf
Veniamin presented this project, including its null results, to the wider community as a poster at the Experimental Psychology Society (EPS) conference (link to recording on YouTube). When writing up certain aspects of the project, the researchers made sure that all demographic and language background data that matches participants was reported. Sharing null results is just as important as sharing positive findings, especially with the addition of other experiments to understand where the null result is coming from.

Veniamin’s supervisors have taught these core principles about how research should be executed and handled at every stage, and as an aspiring PhD candidate, it has been extremely helpful to learn at such an early stage of their career.

Open Science: The What, Why, & How. A New Workshop Introducing PhD

This initiative was supported by the Open Science Interest Group in Psychology, in particular Cátia Ferreira De Oliveira, Jamie Cockcroft, and Anna Guttesen

Within the Department of Psychology, Open Research (OR) practices, including study pre-registration, sharing data and publishing open access, are commonly used. However, one of the key challenges remains increasing awareness and
Students to Open Research supporting use of these OR practices among researchers in all career stages. A crucial step in this process is ensuring early career researchers become familiar with different types of OR from the beginning of their research career and, most importantly, know how they can receive support if needed.

Angela has organised and been involved in various events that aim to increase this awareness and support, including departmental meetings to discuss new and ongoing initiatives, an insightful annual survey of open research awareness and engagement, and a new workshop, “Open Science: The What, Why, and How” (OSF link to slides and Panopto recording) which is attended not just by Y1 PhD students (for whom it is now mandatory) but also by other PhD and MSc students. Doing this as a group session provides them with an interactive environment in which they can discuss OR practices with their peers, which hopefully forms the start of a network.

Angela is working on other ways to facilitate ongoing support in the department, such as by including discussion
around OR practices in students’ TAP (Thesis Advisory Panel) meetings, and developing a guide for supervisors including short introductions to various OR practices. This will be accompanied by an event in January for both new and current supervisors.

**Take a bite out of climate change**

Dr Alana Kluczkovski, Research Associate, Biology

Prof Sarah Bridle, Prof Katherine Denby, Professor, Biology; Dr Belinda Morris, Anthonia James

Supported through multiple research grants - see acknowledgements page on the project website for details

Combining understanding of different aspects of the food system, such as expertise in greenhouse gas emission calculations, nutrition, crop diseases, and data handling, the **Take a bite out of climate change** (Takeabitecc) initiative aims to communicate to school students, families and the general public a coherent message which conveys the message that individual choices can make a difference to tackling climate change.

^ A selection of climate food flashcards, distributed under a Creative Commons Attribution-ShareAlike 4.0 International licence
The initiative started with an exhibit with outreach activities in various science festivals around the UK, such as the Royal Society Summer Science Exhibition and Bluedot Festival in 2019 (see open access article in MDPI Sustainability). During the COVID-19 lockdown, Alana and the Takeabitecc team developed free online resources for school children aged 7–14 years, along with school teachers and parents/carers (see open access article in Nutrition Bulletin).

Alana has also run projects engaging with teachers and students in North Wales on increasing awareness of food climate impacts, and coordinated the development of the Pre-COP26 School Food and Climate Summit, an activity program for four secondary schools across the UK to increase students' awareness of food climate impacts and providing them with an opportunity to set ambitious climate reduction targets.
Takeabitecc events and activities have reached more than 42,000 people, with open resources such as the Climate Food Challenge online game, flashcards and activity worksheets.

**Understanding the role of sleep in mental health and cognition**

Scott Cairney, MRC Career Development Award Fellow, Psychology

Submitted on behalf of all members of his lab: Anna Guttesen, Emma Sullivan, Marcus Harrington, Dr Jennifer Ashton and Emily Madden

Supported by an MRC Career Development Award Fellowship (MR /P020208/1)

The overarching goal of this research is to understand the basic mechanisms through which sleep supports cognition and mental health. Open research practices and principles have been at the heart of this project since its inception in 2017, helping Scott and members of his lab to ensure that their outputs are characterised by the highest standards of scientific rigour and transparency.

![Image](https://doi.org/10.1093/cercor/bhac159)

^ An image from the article 'Sleep loss disrupts the neural signature of successful learning' published in *Cerebral Cortex* showing experimental procedures and tasks (Cerebral Cortex https://doi.org/10.1093/cercor/bhac159). Credit: © 2022 Anna Guttesen, Gareth Gaskell, Emily Madden, Gabrielle Appleby, Zachariah Cross and Scott Cairney, distributed under a Creative Commons Attribution 4.0 International Licence.
They have gone to great lengths to engage with a variety of open science initiatives, including: a registered report (a secondary data analysis protocol using a large-scale and publicly available dataset obtained during the initial months of the pandemic, submitted as a registered report to the journal *Cortex* with their analysis scripts); preregistration of experimental paradigms, analysis methods and hypotheses (notable example on OSF, now published as an open access article in *Cerebral Cortex*); sharing research data and analysis scripts accompanied by data descriptors and metadata to facilitate new users’ analyses (example on OSF); sharing preprints of submitted manuscripts on psyarxiv.com, biorxiv.org and medrxiv.org; and seeking opportunities to develop individual skills in reproducible methods and share these with peers through the ReproducibiliTea journal club initiative (see list of last year’s Awardees).
They have also reflected on potential issues or barriers to open research in their discipline, such as the investment of time required for registered reports, which can be problematic for PhD progression, and have pursued formalising changes to doctoral assessment criteria in their department to help incentivise such practices.

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<tr>
<td>Parent-mediated play based interventions to improve social communication and language skills of preschool autistic children: A systematic review and meta-analysis protocol</td>
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**Citation**


**Review question**

The current review aims to report the key characteristics, and the effectiveness of play-based interventions on social communication skills and language needs for autistic children. The research questions are as follows:

1. What are the key characteristics of play-based interventions?
2. How effective are parent-mediated play-based interventions in preschool children with SCCLN compared to non-play-based interventions?

The Child and Adolescent Neurodevelopmental Diversity Research Group (CANDY) are dedicated to the open-science movement and strive to make their research transparent and publicly available to increase reproducibility and replicability. Although researchers have previously reported the overall effectiveness of different types of play-based interventions on the social communication and language skills of autistic children, no previous systematic reviews have yet evaluated the effectiveness of parent-mediated play-based interventions in preschool autistic children. To address this gap in the literature, the group have preregistered a study protocol based on a proposed systematic review and meta-analysis study. This protocol reports their aims, research questions, study methodology and any conflicts of interest.
The study protocol was pre-registered with PR and OSPERO and uploaded as a preprint on PsyArXiv, making it publicly available for other researchers to openly use, reproduce, and replicate. Any data associated with the study protocol was and will be registered on OSF upon completion of the study. The protocol has so far been downloaded and read by more than 100 researchers on the OSF and has been submitted to an open access journal for publication.

Play and Child Development: A Twin Study of Genetic and Environmental Influence on Young Children’s Play

Dr Gill Althia Francis, Research Fellow, Education
Dr Umar Toseeb, Senior Lecturer (Fellowship Mentor)
Leverhulme Early Career Fellowship

Gill's project straddles a new intersection of interdisciplinary research that involves the use of behavioural genetics research to study children’s playful practices, adopting open science practices to deliver this research in a transparent way.

^ Screenshot of OSF Registries page for ‘Play and Psychopathology: An Etiological Work of the influence of Genetic and Environmental factors’ (Ht Umar Toseeb, and Kathryn Asbury, distributed under an AFL-3.0 Licence © 2011-2022 Center for Open Science.)
The initial project idea was developed during her one-year ESRC White Rose Doctoral Training Partnership Fellowship and was preregistered on OSF. The project was redeveloped and extended in phase one of her Leverhulme Early Career Fellowship, so the original preregistration has been updated (OSF link), forked from the original registration with an update provided (OSF link). This means that the same project DOI is used which ensures that this initial aspect of the research cycle remains open.

Subsequent outputs from this project (pre-prints, publications) will be added to the project registration. Data may not be shared due to restrictions with using cohort data, but the intention is to share R-scripts from the data analysis at the end of the project. Gill is also in the very early stages of developing a Github profile which will showcase work including this project.

| The L1 influence on the processing and production of L2 tense-aspect | Yu Liu, Postgraduate Researcher, Education | Yu preregistered their project on OSF to make the study design and data collection procedures more transparent, and uploaded all their experimental materials. This included images | Leah Roberts (Supervisor) |
and recordings created for eye-tracking tasks, stimulus sentences created for the other tasks, and the language background questionnaire used in the study enabling other researchers to download and adapt them to their projects in different contexts. Data and codes will be uploaded and available to reuse once the data analysis is complete and a preprint will also be made available to the public before Yu submits the manuscript for publication.

Yu hopes that more PhD colleagues will join in open research practices and understand that it requires zero effort but can bring many benefits to their field. Researchers can get valuable feedback when they make methodological tools more transparent, and by sharing designs and materials they can avoid unnecessary duplication of effort into the development of research instruments whilst encouraging more replication studies, which is an urgent need in this area.

This project was also presented as a poster at our York Open Research: Two Years On event (click to enlarge).
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