



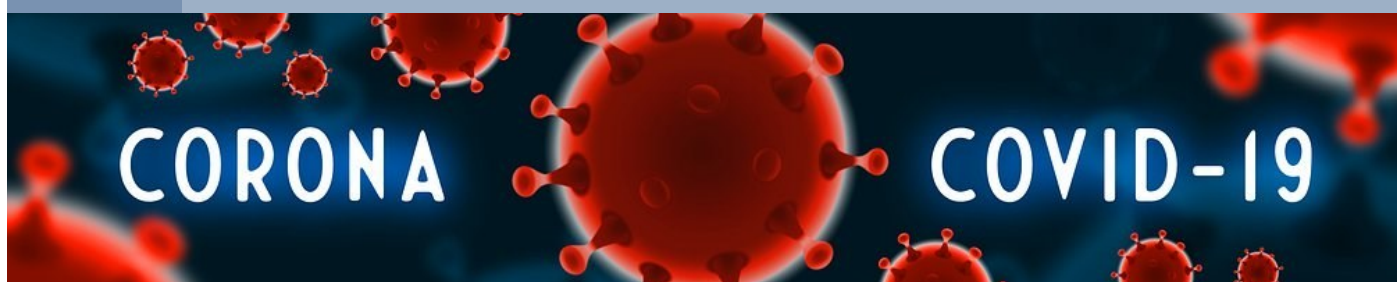
Pitt Rivers Museum, Oxford.

Photo Credit: Jasmine Blane

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As the UK government tells us to stay at home, and research facilities close to participants during the crisis, many on-going OxDARE research studies are on-hold. Yet much valuable resource is being redeployed to work focussed on beating the virus. Here is a taster of the inspirational research going on across the University of Oxford.

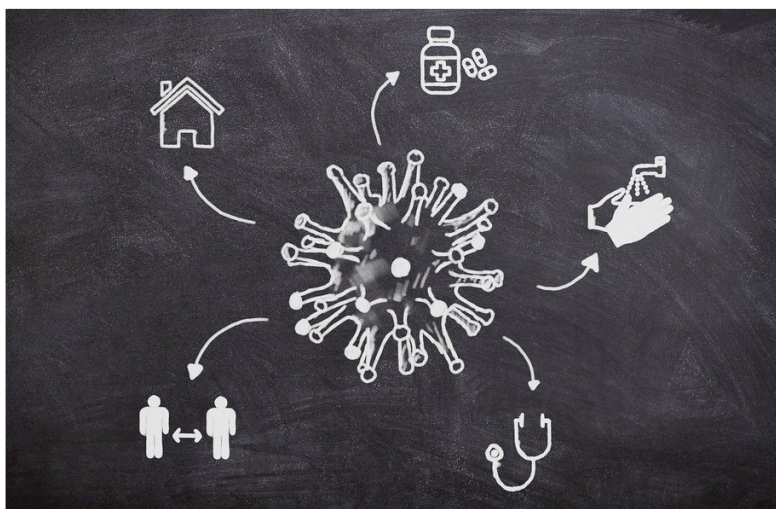
A UK-wide trial of existing drugs is now underway to try to find an effective treatment for hospitalised COVID-19 patients. RECOVERY (Randomised Evaluation of COVID-19 Therapy), involves trialling drugs currently approved for treating conditions such as HIV and inflammation. It has received £2.1m of government funding and is aiming to generate data to inform patient treatment in 3 months.

More testing is urgently needed for the country's frontline workers, so it's uplifting to hear that University of Oxford scientists have collaborated with a team in China to develop a rapid test for COVID-19 which is now awaiting clinical validation in the UK.

A candidate vaccine to protect against the virus has also been identified and researchers are working towards a clinical trial in people. There is concurrent research being done to develop manufacturing processes that can produce the resulting vaccine at scale in an attempt to stop the virus in its tracks.

A low-cost, rapidly deployable ventilator is also in the pipeline, now awaiting government approval and funding for mass production.

For the latest news see the [University of Oxford website](#).



Written by: Shona Forster

## News OxDARE wins public engagement award

The OxDARE team has been named joint winners of the Award for Public Engagement with Science Communications from the University of Oxford, Department of Psychiatry. The prize recognises those who have made an exceptional contribution to promoting the work of the Department to the public in 2019.

The key purpose of OxDARE public activities is to educate the public about the diseases that lead to dementia, and to inspire adults in mid-to-later life to take part in dementia prevention and brain health research. In 2019, OxDARE has particularly tried to reach audiences who have not previously engaged with dementia networks, including healthy adults who often do not realise they can contribute to dementia research, and patients with mild cognitive impairment (MCI) who can be difficult to reach (OxDARE MCI survey, 2019).

Engagement with the public in 2019 has been achieved through interviews with researchers and study participants, attendance at public events and science festivals, and through a strong social media presence and a quarterly newsletter. Furthermore, in 2019 OxDARE's Shona Forster established 'The Abingdon Afternoon Tea Club', a monthly support group for people living with mild cognitive impairment—you can find out more about this on the next page.

The award judging panel noted that OxDARE had “done a lot of good work targeted very sensibly on a well-chosen audience” and that it exemplified “how you can do thoughtful, impactful Public Engagement without a big budget.”

We want to take this opportunity to thank you for all your support of OxDARE and the dementia and ageing research that takes place in Oxford.

Thank you!

Written by: Jasmine Blane



*OxDARE and MYRIAD teams — Joint winners of the Dept. Award for public engagement and Science communications*

The University of Oxford, Department of Psychiatry has partnered with Oxford Health NHS Foundation Trust's Abingdon memory clinic to set up a support group for people with a mild cognitive impairment (MCI) diagnosis. There is currently no formal care pathway for these people between diagnosis and annual check-ups, and very little specialist help in the local community. The 'Abingdon Afternoon Tea Club' (AATC) was developed to fill part of this gap, as well as to engage people with MCI with local dementia research.

The first step in setting up the AATC was a patient and public involvement event last autumn to find out what people with MCI hoped to get out of the group. In November the first of a series of monthly events was held. The group connects people to relevant information and local services, provides short talks about the diagnosis, local health research, and leisure activities that may be of interest. Finally, there is time—over tea and cake—to socialise and ask questions.

Our on-going evaluation of the group suggests attendees enjoy the sessions and find them useful. Keys to success appear to be the availability of University and NHS staff to talk to, as well as the specific local information. "It's great to know someone cares" was a particularly touching recent comment.

The AATC supports dementia research by building an informed group of people with MCI, some of whom are willing to be approached about health research. The engagement also provides useful insights into their lives and challenges.

Written by: Shona Forster



*The 'Abingdon Afternoon Tea Club' aims to provide people with mild cognitive impairment with relevant information and highlight local services and activities that may be of interest.*

## Researcher Profiles

Here we get to know two OxDARE scientists, Dr Sana Suri and Daria Jensen.



### Dr Sana Suri

Alzheimer's Society Research Fellow

Head of Heart and Brain Group

Department of Psychiatry, University of Oxford

#### Q. What are your main research interests?

**Sana:** I lead the Heart and Brain Group at the University of Oxford. We use brain and heart imaging to understand why some people lead relatively long and healthy lives, while others are vulnerable to decline in cognitive skills and dementia. We are interested in understanding how mid-life lifestyle factors, such as obesity or diabetes affect the brain in older age. Ultimately, we hope that by understanding the link between heart and brain health, we can identify new interventions to delay or prevent dementia.

**Daria:** My research focuses on the influence of diet and metabolism on brain health across life. While diet and metabolism have been extensively studied in relation to heart health, their relationship to brain health is less clear. I am interested in researching how a healthy diet can prevent decline in cognitive skills in old age and which inter-connected areas of the brain are particularly relevant.

#### Q. Why did you decide to get involved in ageing and dementia research?

**Sana:** I am fascinated by how much, and yet little we know about the brain. We live in an ageing society where soon the number of people over the age of 60 will far exceed those aged under 14. A lot of ageing research has focused on extending lifespan and increasing the *quantity* of life, without an equal appreciation of maintaining *quality* of life. Delaying age-related diseases is a timely challenge for researchers, and I am interested in how we can make use of mechanisms of brain maintenance or resilience to do so.

### Daria Jensen

DPhil Student

Neurobiology of Ageing Group and Heart Brain Group

Department of Psychiatry, University of Oxford



## Researcher Profiles

**Daria:** In school I became fascinated with how to improve cognition upon learning about savants (people who demonstrate certain abilities far in excess of the average) and meeting some memory artists. Because I believe that the connection between brain areas is key for performing such feats, I undertook an internship with the brain plasticity group at the Max Planck Institute in Berlin. Here I became interested in how training can enhance cognition and potentially limit the cognitive decline that usually comes with age. After a research assistant post in Oxford, I decided I wanted to focus on how lifestyle can influence that age-related decline across the lifespan during my DPhil (PhD).

**Q. What is your favourite activity to do in Oxford, during your free time?**

**Sana:** I am a huge board games nerd, so I love Oxford's resident board game café - the Thirsty Meeples. I am lucky to live near a lot of green space, so my weekends usually involve hikes through Oxfordshire or along the Thames path.

**Daria:** I enjoy doing partner acrobatics. Because trust, partnership and goal achievement are involved during the practice it contributes a lot to my own work-life balance.

**Q. Do you have any recommendations for a book/ movie/ holiday?**

**Sana:** 'This is Going to Hurt' by Adam Kay is one of my recent favourites.

**Daria:** I recommend 'How not to Die' by Dr Michael Greger.

## Research Techniques spotlight: PET

In dementia research, Positron Emission Tomography (PET) scans are used to measure the amount of specific chemical substances in the brain that researchers think may help to identify more accurately the cause of the memory and thinking problems shown by patients. There are different types of PET scans.

For instance, an 'amyloid-PET' scan is used to measure the build-up of a protein called 'amyloid beta', one of the hallmark proteins involved in Alzheimer's disease. An 'FDG-PET' scan measures the amount of glucose in the brain. Glucose is the brain's main source of energy, so this type of scan shows how much energy the brain is using. This in turn provides information about whether there has been a decrease in the number of brain cells, as fewer cells require less energy.



Continued on the next page...

## Research Techniques spotlight: PET

Unlike other types of brain scans such as MRI, PET scans show in more detail the chemical changes in the brain that occur early on in the diseases that lead to dementia. This is very important, as new drugs being tested can target these chemicals and help understand why certain medications may or may not work. PET scans are now being used in many research trials to identify people who have evidence of abnormal changes in their brains, and to look at differences in the brain chemistry of people with and without dementia. These results can be then be used to look for differences in other types of brains scans such as MRI and MEG that may relate to the PET result.

Written by: Jemma Pitt

## Research Research interest: MICAD



A new drug trial conducted by the Department of Psychiatry at the University of Oxford is in the final stages of preparation before beginning testing. The study, known by the name MICAD, will recruit people with mild memory problems to study the effects of a drug developed by Janssen Pharmaceutica NV. The drug targets a protein called CSF-1R, which is responsible for regulating various cells in the body, including a type of cell called ‘microglia’, one of the main immune cells found in the nervous system. Recent research suggests that reducing the number of these microglial cells may help slow the progression of Alzheimer’s disease.

Participants in the new study will take the drug for two weeks, during which they will have a series of physical and cognitive assessments. These will include blood tests, lumbar punctures to test spinal fluid and brain scans. One type of brain scan participants in this study will have, Positron Emission Tomography (PET), is described in more detail in the ‘Research: Techniques’ section of this newsletter.

Studies that have previously researched the impact of the new drug on animals with degenerative diseases of the brain have shown promising results, including a reduction in the number of microglial cells, less degeneration of the brain, and improvements in behaviour. At the moment, the main aim of the MICAD study is not to test whether the drug can slow Alzheimer’s disease in humans. Instead the new study aims to identify useful biomarkers—measures of change in the body—that could be used to track whether new drugs developed to slow Alzheimer’s disease are effective.

Written by: Michael Ben Yehuda

## Current Opportunities/ Studies

### Carers' Assistive Technology Experience Questionnaire

(Ethics approval reference: R57703/RE002)

Do you provide support to someone who is living with dementia in their own home?  
Does this person use electronic assistive technology?

Researchers at the Nuffield Department of Population Health, University of Oxford would like you to take part in a survey about your experiences and impact of using assistive technology at home. Assistive technology are electronic items such as pendant alarms, smart mobile phones, door alarms, falls and bed sensors, Global Positioning System (GPS) trackers, automatic lights, digital photo frames and calendars, robotic pets, and automatic dispensers for medicines.



The survey will be anonymous and will not take more than 30 minutes to complete. You can take part in this research, if you are over 18 years of age, provided or provide at least 10 hours of care per week to a person with dementia, and have used at least one assistive technology with a person with dementia living in their own home.

To find out more please contact Vimal Sriram on [vimal.sriram@dph.ox.ac.uk](mailto:vimal.sriram@dph.ox.ac.uk) or 01865 743762.

## Upcoming Events

In accordance with the new UK Government guidance, all upcoming events have been postponed. However for ideas of things to do at home, see “COVID-19: Guidance for older adults and their families” on the OxDARE website. You’ll be amazed at the range of hobbies and cultural events you can enjoy from home.

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