

Norwich Research Park Biorepository



Introduction

The Norwich Research Park (NRP) is home to over 100 business and 3000 researchers, scientists and clinicians. Having received recent support for development from the BBSRC, the NRP Biorepository is a central resource for research on the Park and sits within the Research and Development department of the Norfolk and Norwich University Hospital Foundation Trust (NNUH). The Biorepository staff are funded by a range of sources including the NNUH, UEA, BBSRC and Breast Cancer Now. Based in the UEA's Bob Champion Research and Education Building, the NRP Biorepository houses around 40 freezers including the UK's first multi-vial size robotic Arctic freezer (sptlabtech). Ethical approval from the East of England Research Ethics Committees allows the Biorepository to help supply tissue and data to small, locally approved projects without having to go through their own individual REC approval.

NRP Biorepository's key role in COG-UK



COVID-19 Genomics UK Consortium (COG-UK) was formed at the end of March 2020 amidst the global pandemic. COG-UK is a UK wide public health surveillance initiative and was created to generate and analyse large scale COVID_19 (SARS-CoV-2) datasets, to understand the virus evolution transmission and spread in the UK. With the team at the Quadram Institute of Biosciences leading the sequencing and bioinformatics analysis for the Norfolk region, the NRP Biorepository underpinned and enabled the robust rapid sequencing pipeline for SARS-CoV-2, feeding weekly sequencing data into the UK Government Scientific Advisory Group for Emergencies (SAGE).

NRP Biorepository function enabled Norfolk's COG UK objectives:



Work that took place in Norwich between March and August 2020, 1565 positive samples were sequenced from 1376 cases, representing 172 cases per 100,00. For each case, the NRP Biorepository anonymously linked all instances where cases were sequenced longitudinally enabling QIB to perform analysis on this information.

As of 27 August 2020, out of 130 countries, only 5 countries (UK, Australia, Spain, India & USA) have sequenced more SARS-CoV-2 genomes than have been sequenced in Norfolk

"NRP Biorepository has been a critical part of the COG-UK sequencing consortium in Norwich. It has allowed us to rapidly setup moving samples and metadata from NNUH to QIB in a matter of days rather than months if we were to set everything up from scratch. So far over 1,400 SARS-CoV-2 samples have gone through the Biorepository, where they have worked long hours to extract the metadata needed for reporting to COG and government (SAGE), and met every weekly reporting deadline. This pandemic has demonstrated just how critical the Biorepository is as a link between QIB and NNUH."

Andrew Page, QIB Head of Informatics



New NRP Biorepository Website

Despite the global pandemic, the team at Norwich along with Affinity Agency, have continued to work on the new NRP Biorepository website. The website comprises of information for patient, scientists and clinicians in the form of videos, FAQs and case studies. Videos from over 15 experts and volunteers answer questions such as 'What is a Biorepository & how does it help patient outcomes?' 'How do you keep my data safe?' and 'Why is it important to donate to a Biorepository?'

"I'm so impressed with how everyone from NNUH and ISL has pulled together not only to make this go live happen but also to make it such a success. Both teams have adapted extremely well to some very dramatic changes at such short notice." Sharon Williams, Director at ISL

Achiever go live despite COVID-19 pandemic

On 23 March 2020, whilst the UK went into lock down, the NRP Biorepository went live with our new Achiever (ISL) Laboratory Information Management System (LIMS). All final preparations had been made for the go-live including hand-holding days and preparation of test data sets. With less than 1 week to go, the appearance of COVID-19 meant that everyone involved began working remotely. Immediately, contingency plans were organised enabling the go-live to go ahead as planned with every team member involved in different locations – a first for all parties involved.



HELPING SUPPORT FUTURE SCIENTIFIC INVESTIGATIONS
By providing a rich source of material to drive research into normal human health and a wide range of diseases

PARTNERS IN THE NORWICH RESEARCH PARK BIOREPOSITORY

The partners in the Norwich Research Park Biorepository are:

- Norfolk and Norwich University Hospital (NNUH)
- Quadram Institute Bioscience (QIB)
- University of East Anglia (UEA)

The Norwich Research Park is a community of 12,000 people, including 3,000 NNUH, UEA & QIB as well as other world-leading research institutes and over 100 businesses.

A partnership between the Norfolk and Norwich University Hospital, Quadram Institute Bioscience and the University of East Anglia

About the Norwich Research Park Biorepository

The Norwich Research Park Biorepository is located in the Bob Champion Research and Education building next door to the Norfolk and Norwich University Hospital and the Quadram Institute.

The Norwich Research Park Biorepository is an invaluable resource for clinical research. The banking of human tissue, blood, solid tissue, and other samples, in a biorepository (tissue bank) provides a rich source of material to drive research into normal human health and a wide range of diseases.

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