



AUSTRALIAN SCHIZOPHRENIA RESEARCH BANK

GUIDELINES FOR RESEARCHERS RESEARCH ACCESS PROTOCOL

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1. Introduction

1.1 The Australian Schizophrenia Research Bank

The Australian Schizophrenia Research Bank (ASRB) was established in 2006 as a collaborative research initiative between the Schizophrenia Research Institute; the Priority Research Centre for Brain and Mental Health Research, University of Newcastle; the Medical Genetics Laboratory, Hunter Area Pathology Service; the Centre for Rural and Remote Health; the Queensland Centre for Mental Health Research, University of Queensland; the Centre for Clinical Research in Neuropsychiatry, University of Western Australia and the Melbourne Neuropsychiatry Centre, University of Melbourne.

The ASRB is a medical research database and storage facility that links clinical and neuropsychological information, blood samples and structural MRI brain scans from people with schizophrenia and healthy non-psychiatric controls. A proportion of these volunteers have also indicated a willingness to be contacted about participation in future schizophrenia research projects.

Information about the ASRB is available on line at <http://www.schizophreniaresearch.org.au/bank/index.php>

1.2 Purpose

The primary aim of the ASRB is to facilitate scientific research into schizophrenia by:

- 1) Collecting, storing and providing comprehensive, cross-referenced clinical, neuropsychological, genetic and brain imaging data from people with schizophrenia and healthy controls, and
- 2) Providing researchers with access to a pool of volunteers as an ancillary recruitment resource for participation in schizophrenia research projects.

It is hoped that this resource will improve scientific understanding of the factors that underlie schizophrenia, and will assist with the development of strategies that have the potential to lead to better diagnosis, treatments and preventative strategies for the illness.

For this reason, the ASRB is an accessible facility that is open to researchers wishing to undertake schizophrenia research using the resources of the ASRB. Researchers are able to apply to the ASRB to:

- Access stored material and data for specific schizophrenia research projects
- Recruit volunteers to participate in specific schizophrenia research projects

2. Information on Data Collected

2.1 Sample Recruitment of Case-Controls

The ASRB is based on a case (schizophrenia) and control (non-psychiatric) sampling design. The sample is drawn from five Australian States and Territories: NSW (Sydney, Hunter, Illawarra, Orange), Canberra, Queensland (Brisbane), Western Australia (Perth) and Victoria (Melbourne), collected through new and existing recruitment resources associated with the ASRB collaborators, including media advertisements, inpatient, outpatient and

community mental health service providers, non-government organisations, rehabilitation services, and cold telephoning using the electoral rolls in each State (recruitment of healthy controls only).

ASRB participants have a confirmed diagnosis of schizophrenia or schizoaffective disorder according to DSM-IV / ICD-10 diagnostic criteria. Healthy controls are screened for a family history of, or treatment for, a psychotic illness at the time of registration. The sample is English speaking and aged between 18 and 65 years. All participants undergo a clinical and neuropsychological assessment and provide a blood sample at the time of assessment. An MRI is also collected in suitable consenting individuals. All participants have the option of registering to be contacted about participation in future schizophrenia focused research projects.

2.2 Clinical and Neuropsychological Characteristics

Participants are assessed using a comprehensive clinical assessment battery that consists of the Diagnostic Interview for Psychosis (DIP: Jablensky *et al*, 2000; Castle *et al*, 2005) to collect socio-demographic, family and medical history data, and to confirm (or screen for) diagnosis. A modified version of the Neurological Evaluation Scale by Buchanan and Heinrichs (1989) is used to assess neurological soft signs. General functioning is assessed using the Global Assessment of Functioning scale (GAF - American Psychiatric Association, 2000). Premorbid and current IQ is assessed using the Wechsler Test of Adult Reading (WTAR - Wechsler, 2001) and the Wechsler Abbreviated Scale of Intelligence (WASI - Wechsler, 1999), respectively. Neuropsychological assessment is performed using the Repeatable Battery for Assessment of Neuropsychological Status (RBANS – Randolph *et al*, 1998). Additional tests assessing working memory (Letter Number Sequencing - Wechsler, 1997) and executive functioning (Controlled Oral Word Association Test - Spreen & Benton, 1969) are also administered. An extensive drug and alcohol assessment is also undertaken as part of the DIP. Personality disorder is assessed using the International Personality Disorder evaluation screening questionnaire (ICD-10 Module), while psychosis proneness is assessed using the Schizotypal Personality Questionnaire (Raine *et al*, 1991).

2.3 Blood Sample Collection and Storage

A blood sample is collected from all participants, a proportion of which is collected in the presence of EDTA and a proportion being collected in the presence of heparin. Peripheral blood lymphocytes (PBLs) are isolated using the standard Lymphoprep method as per the manufacturer's instructions (Vital Diagnostics, USA). Genomic DNA is extracted from one sample of PBLs. DNA is purified using a standard salt extraction method and samples are stored in duplicate in -80°C freezers. Blood samples are collected and transported using existing blood collection and transport networks of the Area Health Services within NSW, Canberra, Queensland, WA and Victoria and are delivered by these services to local ASRB facilities in NSW, QLD and WA within 24 hours of collection. A duplicate copy of each sample is held in the ASRB Central Repository in Newcastle.

2.4 Brain Image Collection and Storage

For each consenting participant two MRI scans are carried out with a 1.5T Siemens Avanto scanner (Siemens, Erlangen, Germany). Firstly, high-resolution anatomical T1-weighted images are acquired using an optimised magnetisation-prepared rapid acquisition gradient echo (MP-RAGE) sequence. The imaging parameters are 176 sagittal slices of 1mm thickness without gap, Field of View $250 \times 250 \text{mm}^2$, repetition time/echo time 1980/4.3ms using a data matrix of 256×256 , resulting in a voxel size of $0.98 \times 0.98 \times 1.0 \text{mm}^3$. Secondly, a Diffusion Tensor Imaging (DTI) scan is performed using an optimised version of the Siemens diffusion tensor sequence. The imaging parameters are 65 axial slices of 2.4mm thickness without gap, Field of View $250 \times 250 \text{mm}^2$, repetition time/echo time 8400/88ms, acquisition matrix 104×104 and 65 images acquired at each location consisting of 1 low-diffusion-weighted ($b=0$) and 64 high diffusion-weighted images ($b=1000 \text{s/mm}^2$).

2.5 Research Participation

A proportion of ASRB participants have registered their interest in participating in future schizophrenia research projects. In 1998, the Schizophrenia Research Institute established the Schizophrenia Research Register, which has provided researchers in NSW with access to participants with schizophrenia for research project participation. The Schizophrenia Research Register has been subsumed into the ASRB, expanding participant access across more Australian States and Territories. Data relating to the structure, function and clinical profile of the Schizophrenia Research Register has been published previously (Loughland et al, 2001; Loughland et al, 2002) and is the foundation for access to participants within the ASRB.

2.6 Western Australia Family Study of Schizophrenia – Background and Information

The Western Australian Family Study of Schizophrenia (WAFSS) is a major clinical and genetic research project, initiated in 1996 and funded by NHMRC project grants, with staffing and infrastructure support provided by the WA North Metropolitan Area Health Services. The Perth Centre for Clinical Research in Neuropsychiatry (CCRN), which is the site of the WAFSS, is a founding member of the ASRB consortium, and many, but not all WAFSS cohort participants have also volunteered and completed the ASRB assessment battery. WAFSS is an affiliated resource of the ASRB.

The WAFSS was among the first studies worldwide designed to implement an endophenotype-based research strategy. By early 2010, the study cohort comprises 1,271 individuals, including 551 patients with schizophrenia, 298 first-degree relatives and 422 healthy controls. Patients and relatives have completed diagnostic interviews (SCAN and DIP). All participants have been assessed using a comprehensive neurocognitive battery (measures of general cognitive ability, verbal memory, executive function, speed of information processing and sustained attention), structured neurological examination, and two personality trait inventories. Neurophysiological assessments (P50, MMN and P300 event-related potentials, antisaccade tasks) and structural MRI have been carried through with subsets of the study sample. Lymphocyte cell lines have been created and DNA samples are available from all participants.

For details regarding access to the WAFSS collection see section 4.8 below.

2.7 Survey of High Impact Psychoses (SHIP)

SHIP is a large national epidemiological survey of the psychoses the data of which was collected in 2010-2011. It used similar information collection methodology (ie, the DIP) as used by ASRB and a brief cognitive assessment. This is herein referred to as the 'SHIP epidemiological data.' Blood for DNA extraction was collected from consenting SHIP participants at the same time as the taking of blood for the SHIP physical assessment module (to measure metabolic parameters). The collection of blood for DNA extraction by ASRB took advantage of the SHIP epidemiological sampling design for identifying people with psychosis and of SHIP procedures for contacting participants, getting their informed consent for SHIP participation and taking blood for the assessment of metabolic measures. The transport of blood for DNA extraction, and the DNA extraction and storage was funded by ASRB. Facilities that are part of the ASRB are used for the storage of the DNA. The resulting DNA is referred to in this section (2.7) as ASRB-SHIP DNA.

ASRB-SHIP DNA data can be linked to clinical and other data collected in the course of the SHIP interview and assessments – but only under strict access protocols.

There are two embargos on the linking of ASRB-SHIP DNA data to epidemiological data on the SHIP aggregated database. First, there will be no linking of data within the period of the SHIP Phase 3 contract, completed in the second half of 2011. Second, there is a two year period after the completion of Phase 3 in which permission to access the data will be limited to groups where at least one investigator is a member of the SHIP Study Group and at

least one investigator is an investigator on the Australian Schizophrenia Research Bank enabling grant. This will provide sufficient time for members of the SHIP Study Group and the ASRB to analyse and write-up aspects of the data collection that they have been responsible for putting together.

Internal investigators (where at least one investigator is a member of the SHIP Study Group and at least one investigator is an investigator on the Australian Schizophrenia Research Bank enabling grant) using ASRB-SHIP DNA data in addition to the SHIP epidemiological data should send proposed topics for papers and a short summary (10 lines) to the SHIP Executive Officer: Data Access and Publication Committee for further distribution to members of the Study Group.

Access to ASRB-SHIP DNA data is also covered by the SHIP-ASRB Memorandum of Understanding which has been approved by the SHIP Study Group. This Memorandum of Understanding is attached as Appendix B.

A special ASRB data file will be created by SHIP, similar to the SHIP CURF in construction, but with two main differences. First, it will be restricted to the records of those SHIP participants who have consented to give blood to ASRB for DNA extraction and for their SHIP epidemiological data to be transferred to ASRB at the appropriate time (see following paragraph). Second, the data will not be anonymised but will use de-identified Link IDs created at the time of the blood draw and that link to ASRB IDs created for these individuals when their bloods are received by ASRB.

This data file will be provided to ASRB for long-term storage, management and access under the same principles applying to the ASRB's existing DNA collection. The date at which this data file is made available to ASRB should be no earlier than two years after the completion of Phase 3 (second half of 2011) and no later than five years after the completion of Phase 3.

It is proposed that the foregoing be reviewed by the SHIP Data Access and Publication Committee at the end of Phase 3 and then again two years after the end of Phase 3.

2.8 Neurobehavioural Genetics Unit (NBU)

The Neurobehavioural Genetics Unit has been funded by a grant from the NSW Department of Health that commenced in 2008 and is administered by the Hunter Medical Research Institute. The Principal Investigator is Professor Vaughan Carr and the Co-Investigators are Professor Rodney Scott, Professor Brian Kelly, Dr Paul Tooney and Dr Murray Cairns.

The purpose of the NGU is to conduct molecular genetic analyses and related studies on the blood samples derived from the Australian Schizophrenia Research Bank (ASRB) and on the saliva samples derived from participants in the Australian Rural Mental Health Survey (ARMHS).

Individual scientists and research groups may apply to ASRB for access to biological samples to conduct their own genetic analyses. Alternatively, data resulting from the genetic analyses already conducted by NGU may be made available to scientists and research groups willing to enter into a scientific collaboration with the NGU investigators. In the former case, standard ASRB policies would apply, including those concerning publication and acknowledgement. In the latter case, the NGU policy found in Appendix C would apply.

3. Information on Data/Sample Availability for Researchers

Each ASRB participant is allocated a unique ID code at the time of recruitment and all genetic samples, MRI brain images, clinical and neuropsychological data are stored in the ASRB database using this ID code.

Personal information that identifies participants (i.e., names, contact details, dates of birth etc) is not released to researchers unless prior permission is obtained from individual participants (i.e., for the purposes of research participation). A core data set is provided with each request for genetic or imaging samples and will comprise socio-demographic data (age, gender, diagnosis, race/ethnicity). Additional data (e.g. clinical or symptom (DIP) data, neurocognitive performance results, etc) will only be made available if specifically requested and adequately justified in the written application for access (please see below or refer to ASRB web site for additional data available www.schizophreniaresearch.org.au). Password-protected access to these data will be provided to investigators by the ASRB Manager.

For researchers seeking to recruit volunteers, the ASRB will contact participants who have indicated they are willing to consider further research and inform them of the details of the proposed project on behalf of the investigator. Contact details for volunteers who agree to participate in a particular project will then be provided to the investigators.

3.1 Clinical and Neuropsychological Data Available

The following clinical and neuropsychological assessment data is available for access by request:

- Socio-demographic data including 1) demographic description, 2) information about pregnancy, birth and parental health, 3) family history of general and mental health, 4) developmental history, including self reported instances of childhood adversity, 5) respondent's general and mental health, 6) respondent's current social environment and functioning.
- Current, past year and lifetime ratings from the Diagnostic Interview for Psychosis (DIP: Jablensky *et al*, 2000; Castle *et al*, 2005) for treated experiences of depression, mania and psychosis.
- Neurological soft signs ratings based on the Neurological Evaluation Scale.
- Rating of general functioning based on the Global Assessment of Functioning scale (GAF - American Psychiatric Association, 2000).
- Premorbid IQ score derived from the Wechsler Test of Adult Reading (WTAR - Wechsler, 2001).
- Current IQ score derived from the Wechsler Abbreviated Scale of Intelligence (WASI - Wechsler, 1999).
- Neuropsychological assessment total score based on the Repeatable Battery for Assessment of Neuropsychological Status (RBANS – Randolph *et al*, 1998).
- Scores for working memory (Letter Number Sequencing - Wechsler, 1997) and executive functioning (Controlled Oral Word Association Test - Spreen & Benton, 1969).
- Drug, alcohol and tobacco use self report history from the DIP.
- Self report personality disorder ratings from the International Personality Disorder Evaluation screening questionnaire (ICD-10 Module).
- Self reported psychosis proneness as assessed by the Schizotypal Personality Questionnaire (Raine *et al*, 1991).

3.2 Genetic Samples Available

All genetic samples are provided from the Central ASRB repository located in Newcastle as follows:

- All genetic samples must remain in Australia. International researchers seeking access to the ASRB should discuss their requests with the ASRB Manager, who will endeavour to arrange for the necessary analyses to be conducted by an appropriate genetic analysis service, at cost to and on behalf of the researcher.
- Researchers may apply to access DNA samples and/or genotyping information. Genotyping information available on ASRB samples can be obtained by contacting Jason Bridge (Jason.bridge@newcastle.edu.au). Also available is a summary of the methodology used to produce the de-identified genotyping information. Researchers are

encouraged to consult the list, and request genotyping information for sequencing research projects as preference to DNA samples.

- DNA samples are stored at a concentration of 100ng/ul. Samples issued to approved researchers will contain 1 microgram of DNA per sample, with a minimum volume of 10ul aliquotted. Researchers who wish to complete a study requiring more than 1ug of DNA will be required to write a justification for the extra DNA detailing the techniques to be used and providing evidence that more than 1 ug is necessary. This will then be considered by the Access Committee to determine if such a request can be accommodated and what costs may be associated with supplying the extra DNA. Samples will be labelled with the sample number, date aliquot and concentration.
- DNA may have been derived from whole blood or LCLs; researchers will be advised of the source of each sample provided. Researchers who wish to complete a study requiring DNA or extracted exclusively from whole blood (or exclusively from LCLs) will be required to write a justification, detailing techniques to be used.
- DNA samples will be packaged and transported in an approved IATA transport shipper. Researchers will nominate their courier of preference. Samples will be sent to researchers from Monday to Thursday only to ensure samples arrive when receiving staff are available.
- ASRB staff will liaise with researchers prior to dispatch of the samples of the expected time and day the samples will be sent. This information may be provided by email or via phone.
- A *Samples Issued List* will be sent with the samples and will provide the researcher with sample information such as sample ID numbers, 260nm OD readings and 260/280nm ratio OD readings.
- A *Confirmation of Sample Receipt Form* will be emailed to researchers to complete as confirmation all samples were received and a provision to record any problems with the dispatching or transport.
- A *Return of ASRB Sample form* will be emailed to researchers for use if unused samples are to be returned to the ASRB upon completion of the research project.

3.3 MRI Scans Available

The following MRI data from consenting volunteers is available for access by request:

- High-resolution anatomical T1-weighted images with voxel size of 0.98x0.98x1.0 mm³ (for scanning parameters see section 2.4 above).
- DTI images (for scanning parameters see section 2.4 above).
- Images that have undergone standard processing and basic analyses may also be available. Please contact ASRB Manager for more information.

4. Accessing the ASRB

4.1 Access Timeline

The ASRB has considered and will consider applications for access on the following timeline.

April 2008: ASRB Chief Investigators are able to access their locally collected samples/data.

June 2009: ASRB Chief Investigators are able to access the entire ASRB sample/data collection.

ASRB Chief Investigators and non-commercial NSW based investigators only are able to recruit volunteers from ASRB.

July 2010: All non-commercial Australian researchers are able to access the entire ASRB samples/data. Studies may involve collaboration with researchers from overseas, however the actual analysis of data and/or samples must be carried out in an Australian institution, with the first Chief Investigator on the application residing in Australia.

All non-commercial Australian researchers are able to recruit volunteers from the ASRB in NSW, QLD, WA, VIC and ACT.

July 2011: International researchers and commercial entities are able to access the entire ASRB samples/data. Priority may still be given to Australian and/or non-commercial researchers.

International researchers and commercial entities are able to apply to recruit volunteers from the ASRB to Australian commercial entities. Priority may be given to non-commercial researchers.

4.2 Sample Allocation

Cross-referenced samples with clinical, cognitive, genetic, brain imaging and linked domains are available to researchers investigating the mechanisms underlying the development of schizophrenia. Access to the ASRB is the responsibility of the ASRB Access Committee and access will be allocated on the basis of the order in which the applications are received.

4.3 Resource Management

The ASRB Access Committee is responsible for the review and approval of all applications by researchers to access the ASRB. The committee is currently chaired by Professor Vaughan Carr and membership includes the ASRB Manager, SRI's Director of Operations, four principle investigators (one from each of the participating states), two independent scientists, one consumer representative and one carer representative.

The Access Committee considers applications within one month of receipt of the application, in a process overseen by the ASRB Manager. The ASRB Manager is available to assist researchers make their application to the ASRB, and to liaise between researchers and the Access Committee. The ASRB Manager is responsible for the monitoring of access to volunteers, samples and/or data by researchers and will provide reports and information to the Access Committee about this access.

4.4 Applying to Access Volunteers, Samples and/or Data from the ASRB

Researchers wishing to access volunteers, samples and/or data from the ASRB must first have their study independently reviewed and approved by a recognised Human Research Ethics Committee. Researchers must apply directly to the ASRB Manager using the *ASRB Resource Access Application Form* which is available from the ASRB web site - www.schizophreniaresearch.org.au, and enclose confirmation of ethics committee approval, together with the associated ethics committee application, and funding status (if applicable) for the project. Applications will be processed and reviewed as the ASRB Access Committee receives them. If the project for which access is sought has received funding on the basis of one or more successful competitive grant applications, then a copy of each relevant grant application must be submitted. All sources of funding for the proposed study must be disclosed.

Researchers should be aware that considerable lead-time is associated with processing applications and providing access to volunteers, samples and/or data. Researchers should also be mindful of the limited availability of some samples and data, and with respect to research participants, that the ASRB should only be viewed as a complementary recruitment source to existing recruitment strategies, and *should not be relied on as the sole source of participant recruitment*. Consultation with the ASRB Manager before proposal submission is strongly encouraged.

Criteria against which applications will be evaluated include ethics committee approval, scientific merit of the proposed research, and availability of and justification for the range of samples/data/volunteers requested. The Access Committee reserves the right to approve / not approve applications from investigators whose projects are very similar to other projects which have accessed, or are already accessing, the ASRB, based on an estimation of the value of replication of the project.

Once a project has been approved as eligible, samples will be dispatched without delay by courier at the expense of the end-user (see below).

For researchers seeking to recruit volunteers, the ASRB will contact participants who have indicated they are willing to consider further research and inform them of the details of the project on behalf of the investigator. Contact details for volunteers who agree to participate will then be provided to investigators. Researchers will be granted a twelve month period of access to ASRB volunteers (see section 6.4 below). Further access for the same study beyond this time will require an application for extension of the study for a period of up to twelve months (ie, a total of 2 years). Further access for the same study beyond this time will require a new access application to be submitted.

An independent dispute resolutions committee has been constituted to oversee any disputes/appeals which may arise in regards to access to the ASRB. If researchers wish to appeal the decision of the Access Committee, they should contact the ASRB Manager who will facilitate this process.

4.5 Chief Investigator Access

ASRB Chief Investigators who wish to access ASRB data and/or samples collected from centres other than their own must follow the established application processes described above.

ASRB Chief Investigators who wish to recruit only from their local volunteers or to access their locally collected samples and data should complete and submit an *ASRB Access Agreement and Application Form* to the ASRB Manager and this will be noted (but not reviewed) by the Access Committee.

4.6 Access Agreement and Variations

Once it has been agreed that volunteers, samples and/or data will be provided and all conditions are met (ethics committee application and approval; proof and source of funding), the researchers must sign the *ASRB Access Agreement Statement* regarding conditions of volunteer/sample/data use, cost recovery, appropriate acknowledgement/authorship of the ASRB, and provision of reports and publications. Copies are available on the ASRB web site www.schizophreniaresearch.org.au

Researchers must seek formal approval from the ASRB before varying any agreed upon research protocol, undertaking subsequent studies, or conducting additional follow-up research which utilises volunteers, samples or data provided by the ASRB. An *ASRB Variation Application Form* must be completed and submitted to the ASRB Manager and this will be reviewed by the Access Committee.

4.7 Safety

Within the ASRB, blood samples are handled according to standard Occupational Health and Safety and NHMRC guidelines. While every effort is made to exclude infectious cases, the ASRB cannot guarantee that all cases are not infectious. We therefore emphasise the importance of handling human biological samples as being potentially infectious at all times.

Researchers accessing ASRB samples are responsible for the handling procedures at their institution. It is the Principal Investigator's responsibility to ensure that adequate safety information and necessary training are provided before co-investigators (including students) can proceed with research using the samples. Special attention should be paid to supervision of students working with human genetic samples. It is recommended that a person working with human genetic samples have his/her hepatitis immune status verified and undergo vaccination, if required.

4.8 Western Australia Family Study of Schizophrenia - Access

The WAFSS is an affiliated resource of the ASRB and its researchers are currently involved in several international collaborations. WAFSS is also available for research access and further information about the WAFSS is available on request. Expressions of interest in potential research collaboration should be addressed to the CCRN Director, Professor Assen Jablensky (email: assen@cyllene.uwa.edu.au; phone: +618 9224 0290; fax: +618 9224 0285) and/or Co-Director, Dr Daniel Rock (daniel.rock@uwa.edu.au; phone: +618 9347 6405).

5. Costs Involved With Accessing the ASRB

5.1 Cost Recovery

To support the longevity of the ASRB, access to samples and data will be granted to researchers on a cost recovery basis. A system of cost recovery that reflects the costs involved in processing applications and providing data, samples and research participants is applied to all researchers accessing the ASRB (Additional details are provided in Appendix A).

Costs are determined on a per-subject basis according to the following tiered system of where and by whom the

The following table indicates costs associated with each component of the application process. These are based on standard applications; unusually large applications may incur an additional fee, which will be discussed with the applicant before the application is processed.

All applicants will be charged the application processing fee in addition to costs based on the nature of samples/data/participants requested, as follows:

	Cost Recovery
Application Fee	\$265
Research Participants	\$355 + \$1.20/participant contacted
Clinical Data	\$155 + \$6.60/participant
Genetic Samples	\$300 + \$5.00/sample
MRI/DTI Data	\$150 + \$4.00/participant

Fees are excluding GST.

Fees will be indexed annually for inflation according to CPI

ASRB CIs will receive a 20% reduction in cost recovery fees.

Please note: fees for research undertaken by for-profit commercial companies will be considered on a case by case basis. Commercial companies interested in accessing this facility should contact the ASRB Manager to discuss their study.

The cost recovery system will be evaluated annually by the ASRB Access and Governance Committees to ensure that no excess profit is made and the costs are in line with changing technologies and demands by applicants. All funding obtained via cost recovery will be reinvested in the ASRB.

6. Reporting Procedure for Researchers Accessing the ASRB

Researchers accessing the ASRB are required to provide a number of reports over the course of their projects. Copies of all the reports described below are available via the ASRB web site (www.schizophreniaresearch.org.au).

Failure to adhere to any of the below reporting requirements may impact on researcher's future access to the ASRB.

6.1 Annual Progress Reports

Researchers will be required to provide a brief annual report indicating the progress of their research detailing any participation by ASRB volunteers, outcomes achieved, details regarding the use of the supplied samples/data, including whether the study is continuing and the anticipated date of completion. If the study is continuing the researcher will also need to confirm that their institutional ethics committee approval is current. Researchers will be contacted by the ASRB and *Annual Reports* are to be submitted by 30 June for each year of the study or recruitment period, and for the period covering the release of publications.

It is particularly important that any relevant demographic (e.g., change of address or contact details, family name, marital status etc) or clinical data (i.e., diagnostic classification, IQ score, neuropsychological performance, symptom ratings etc) be reported back to the ASRB as soon as possible after a volunteer has participated in a project. Researchers should seek written permission from their participants to permit information and data transfer. This is to ensure that the ASRB database is up-to-date and remains a useful resource for future researchers. To secure the transfer of personal or clinical data, all documents should be password protected. Any data provided will be stored using the volunteer's ASRB ID number, permitting the cross-referencing of this data with any that is already stored on the ASRB database.

6.2 Final Report

At the completion of the study, researchers are required to provide a *Final Report* in the form of a summary of results with regard to major findings, and to make their relevant raw data (see point 6.1 above) available to the ASRB, except in circumstances where data is embargoed or under patent. In such cases, these data will not be made available to other investigators, except with the written permission of the original investigators. If they so wish, the original investigators may place conditions on access to this data by third persons. Where appropriate, and with the consent of the original investigators, donors (or their family, if deceased) may be notified of any research findings that have direct health implications for the donors and/or their families. Provision of sensitive data is negotiable and can be organized to occur after publication of the findings, if required. Personal information and clinical data will be stored under the participant's unique identification code on the ASRB database, permitting the cross-referencing of this new data with the participant's existing stored data.

6.3 Quality Assurance Reporting

At the completion of the study, researchers will be posted a *Quality Assurance Questionnaire* that they will be asked to complete and return to the ASRB. The purpose of the *Quality Assurance Questionnaire* is to assess how well their project was serviced by the ASRB and to identify any problems so that the ASRB might address and improve upon in future.

6.4 Renewal of Volunteer Access

Researchers seeking to recruit ASRB volunteers for other studies will initially be granted a twelve month period of access, renewable for one further twelve month term. In order to renew access for this second twelve month term, researchers will need to submit a *Renewal of Volunteer Access* form, available from the ASRB web site (www.schizophreniaresearch.org.au), to the ASRB Manager and this will be reviewed by the ASRB Access Committee. Further access for the same study beyond this time will require an entirely new application, following the procedures outlined in Section 4 above.

Researchers will be contacted by the ASRB regarding renewal of approved projects.

7. Publication and Acknowledgement of ASRB Support

It is a requirement that any publications or presentations arising from research that has accessed volunteers, samples or data from the ASRB acknowledges the contribution of the ASRB. The ASRB must be included in the author list for any publications arising from research that has accessed the ASRB, using any one of the following formats:

- a) The Australian Schizophrenia Research Bank, with the names of ASRB Chief Investigators listed in the acknowledgements at the end of the paper (see Chief Investigator list in item c) below);
- b) Vaughan J Carr (and/or other CIs as appropriate) on behalf of the Australian Schizophrenia Research Bank; or
- c) Individually listing the Chief Investigators and ASRB Manager: Carr V, Schall U, Scott R, Jablensky A, Mowry B, Michie P, Catts S, Henskens F, Pantelis C, Loughland C.

The following statement must be included in the acknowledgments (or other appropriate section of the publication):

This study was supported by the Australian Schizophrenia Research Bank (ASRB), which is supported by the National Health and Medical Research Council of Australia, the Pratt Foundation, Ramsay Health Care, the Viertel Charitable Foundation and the Schizophrenia Research Institute.

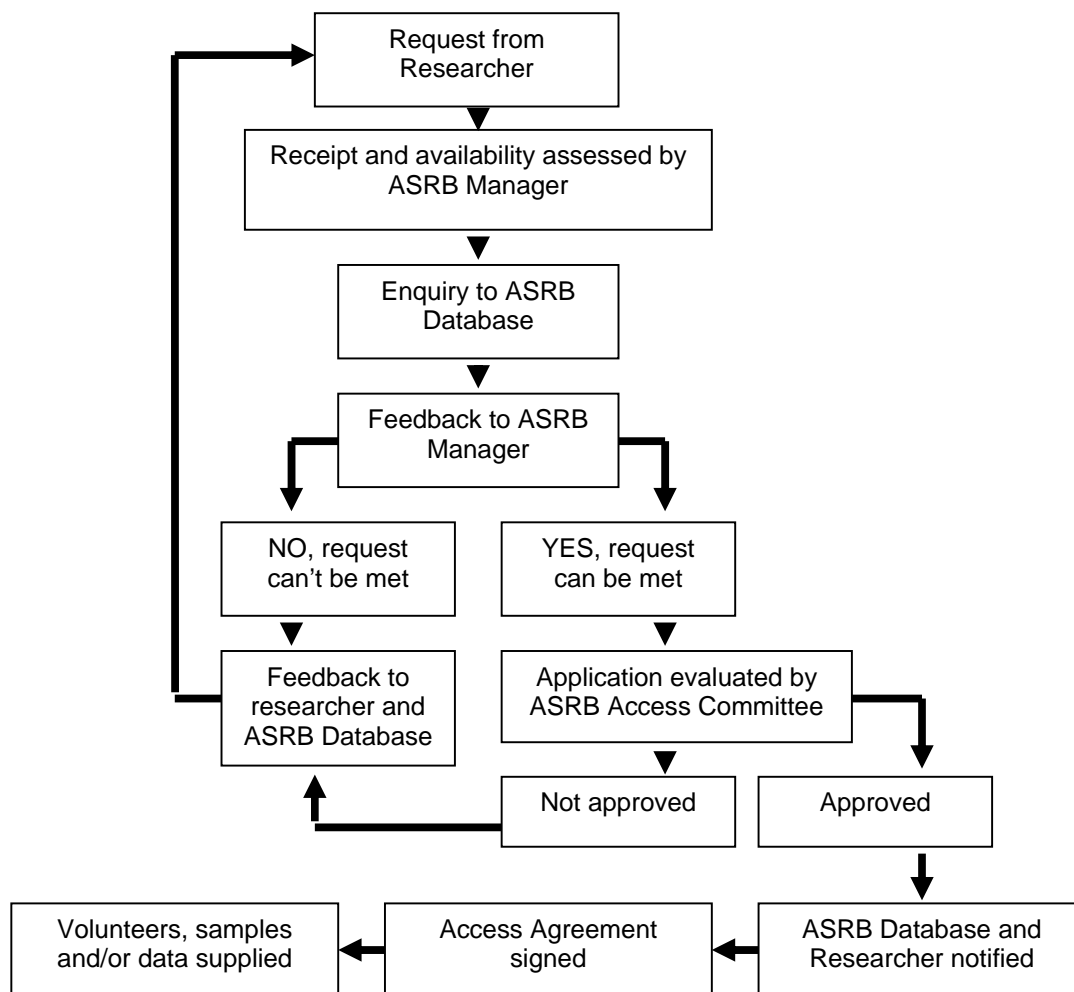
The ASRB requires that a PDF copy of all resulting publications be forwarded to the ASRB Manager (contact details provided below).

8. ASRB Volunteer, Sample and/or Data Request System and Response Process

The following describes the process associated with requesting volunteers, data or samples from the ASRB (see flow chart on following page):

- i. The holder of the appropriate Institutional Ethics approval for the project will be the Chief or Principal Investigator for the request.
- ii. Completed and signed ASRB Access Application Forms should be forwarded to the ASRB Manager.

- iii. The researcher will receive an acknowledgement of the receipt of the request and an estimated time for its consideration by the ASRB Access Committee. This usually takes place within four weeks of the request submission but some requests may take longer.
- iv. The ASRB Manager will prepare a written report for the ASRB Access Committee, specifying the availability of volunteers, samples and/or data and the resources needed to meet the request. Copies of the request, research plan, ethics approvals and ASRB manager's report are provided to the ASRB Access Committee for consideration.
- v. The researcher is informed of the ASRB Access Committee's recommendation, availability and timeframe for the request to be completed.



9. Responsibilities of Researchers

- i. Volunteers, samples and/or data received from the ASRB are for the exclusive use of the Principal Investigator and acknowledged co-investigators on the approved project only, and cannot be provided, distributed or sold to other researchers without prior authorisation.
- ii. It is the Principal Investigator's responsibility to ensure that their Institutional Ethics Committee has approved the involvement of all researchers listed in an approved project, prior to usage of ASRB volunteers, samples or data.
- iii. Principal Investigators must include in the *ASRB Access Agreement and Application Form* the names of students and personnel directly involved in the project. The ASRB Guidelines for Researchers must be provided to all users and all users must sign the *ASRB Access Agreement Statement*.
- iv. Researchers should re-code each sample and dataset received from the ASRB by creating their own experimental coding system. ASRB codes should be retained with the samples and/or data for the purpose of reporting to the ASRB in the *Annual* and *Final Reports*.

- v. Researchers take full responsibility for the OH&S and relevant safety precautions when handling human samples and involving humans in research.
- vi. All materials remain the property of the ASRB, and any remaining samples and/or data must be returned on request. All unused samples must be returned to the ASRB upon completion of the research project.
- vii. Biological samples to be disposed of that cannot be returned to the ASRB, must be handled in accordance with the biosafety guidelines of the parent institution.
- viii. The ASRB Access Committee requires that Principal Investigators provide an annual report giving a brief description of the outcomes of the research and identifying all presentations and publications arising from the use of ASRB volunteers, samples and/or data.
- ix. Researchers should complete and return to the ASRB Access Committee a *Quality Assurance Report* and *Final Report* at the completion of the study.
- x. The Principal Investigator must acknowledge, using the approved wording, the support of the ASRB in all oral and written presentations and publications resulting from use of ASRB volunteers, samples and/or data. Failure to comply with this may jeopardise future access to the ASRB.

10. Requests for Information and Application Forms

Mr Jason Bridge
ASRB Research Assistant
Phone: (02) 4033 5723
Facsimile: (02) 4033 5692
E-mail: Jason.Bridge@newcastle.edu.au

Australian Schizophrenia Research Bank
C/- Priority Research Centre for Brain and Mental Health
PO Box 833
Newcastle NSW Australia, 2300

Appendix A

ASRB Schedule of Fees

As part of the conditions for ongoing funding by the NHMRC, the ASRB is required to implement a system of cost recovery.

Cost recovery supports the sustainability of the facility and offsets the significant costs involved in processing applications and providing access to data, samples, images, and research participants.

These details will be included in the *Access Agreement Statement in the Cost Recovery (office use only) section*. The applicant will be notified of total sample cost as early in the application process as possible.

As stated in Section 5.1, all applicants will be charged the application processing fee in addition to costs based on the nature of samples/data/participants requested, as follows:

	Cost Recovery
Application Fee	\$265
Research Participants	\$355 + \$1.20/participant contacted
Clinical Data	\$155 + \$6.60/participant
Genetic Samples	\$300 + \$5.00/sample
MRI/DTI Data	\$150 + \$4.00/participant

Fees are excluding GST.

Fees will be indexed annually for inflation according to CPI

ASRB CIs will receive a 20% reduction in cost recovery fees.

It should be noted that large requests place considerable burden on ASRB staff in the preparation of samples and data for supply. Large requests may attract an additional processing fee. This will be discussed with researchers by the ASRB Manager.

Any concerns related to the costs in relation to ASRB access should be discussed with the ASRB Manager.

Shipping

Additionally, all researchers are responsible for the costs associated with handling, packaging and transporting samples/data via courier, including dry ice, storage containers, and freight charges.

Researchers are asked to nominate their courier of preference and to provide their account details. All courier charges are the responsibility of the requesting researcher. Acknowledgement of acceptance of these charges is to be given on the *Access Agreement Statement*.

Please be aware that substantial cost may be involved in sending samples interstate and particularly overseas. A quote will be provided prior to supplying samples to researchers.

Appendix B

AUSTRALIAN SCHIZOPHRENIA RESEARCH BANK AND SURVEY OF HIGH IMPACT PSYCHOSIS

Memorandum of Understanding

THIS MEMORANDUM OF UNDERSTANDING is made the day of 2010

BETWEEN Australian Schizophrenia Research Bank ("ASRB"), administered by the Schizophrenia Research Institute, 405 Liverpool St, Darlinghurst, NSW 2010

AND Survey of High Impact Psychosis ("SHIP"), administered by the Neuropsychiatric Epidemiology Research Unit in the School of Psychiatry & Clinical Neurosciences, University of Western Australia, Medical Research Foundation Building, Rear 50 Murray St, Perth, WA 6000

RECITALS

- A. The ASRB is a national genetics research project collecting clinical information, blood samples and brain scans on a large number of people with schizophrenia and healthy controls. It is funded by an NHMRC Enabling Grant (2006-2010) and is being undertaken in New South Wales, Queensland, Victoria and Western Australia.
- B. The SHIP study is an Australian Government funded psychosis prevalence study to be undertaken in 2010. It will be undertaken in New South Wales, Queensland, South Australia, Victoria and Western Australia.
- C. The ASRB has been identified as a suitable facility for storage of DNA from blood samples to be obtained as an adjunct to the drawing of other blood samples during the SHIP study.
- D. This MoU describes the terms and conditions upon which the ASRB and SHIP will collaborate.

NOW THIS MoU witnesses that the parties have agreed as follows:

1. Ethics

- 1.1 The research undertaken under this MoU must comply with the applicable ethical standards as determined by the National Health and Medical Research Council.

- 1.2 The ASRB currently has ethics coverage in NSW, QLD, SA, VIC and WA. This coverage will be modified to be able to consent SHIP participants and collect the samples (as defined below) from the SHIP study to include in the ASRB.
- 1.3 The SHIP study has obtained ethics approval. The SHIP NEAF ethics application states in Section 8 Question 3 that: "Information collected for, used in, or generated by, this project will/may be used for another purpose by the researcher for which ethical approval will be sought." The use of SHIP epidemiological data outside ambit of the SHIP ethics approval will require separate ethics approval.
- 1.4 The SHIP study has a protocol governing data access and publications, including transfer of data to the ASRB for those SHIP participants who have consented to provide blood samples to the ASRB. This is covered in the SHIP Data Access and Publication Agreement.

2. Consent & Privacy

- 2.1 Volunteers for the SHIP study will first consent to the SHIP data and sample collection process.
- 2.2 At the time that SHIP blood samples are being collected, a separate ASRB consent form will be offered for completion. This consent will cover the provision of blood and a minimum dataset to ASRB (i.e. sex, date of birth, State, OPCRIT diagnosis), and consent for DNA data to be used with SHIP epidemiological data under the protocols set out by the SHIP Data Access and Publication Committee. OPCRIT diagnosis will be provided as soon as possible, but not immediately as the data will need to be entered and cleaned before they can be made available.
- 2.3 The ASRB consent form will be forwarded to the ASRB central office in Newcastle once signed.

3. Blood Collection, Transfer and Protocols

- 3.1 ASRB, using SHIP infrastructure and personnel, will collect blood for DNA at the same time point that SHIP bloods for metabolic parameters are collected.
- 3.2 There will be only one blood draw (first quantum of blood for SHIP, second quantum of blood for ASRB). The maximum amount taken for ASRB will be 20 mls.
- 3.3 The SHIP blood draw, transfer and processing will follow the established protocols in place for the SHIP study.
- 3.4 The ASRB blood draw will follow SHIP procedures which will take into account as far as possible the modified ASRB Genetics Protocol.
- 3.5 The ASRB processing of samples will follow the modified ASRB Genetics Protocol.
- 3.6 ASRB blood samples will be transferred immediately after collection (or within 48 hours at most) via existing blood collection transport networks to one of the ASRB blood processing centres listed below.

- WA samples (University of Western Australia - David Chandler)

- QLD samples (University of Queensland – Prof. Bryan Mowry)
- NSW, VIC and SA samples (University of Newcastle – Prof. Rodney Scott)

4. Privacy

- 4.1 To protect the privacy of SHIP volunteers, the SHIP study will create a link ID for each ASRB blood sample at the time of shipping to the ASRB blood processing centres.
- 4.2 ASRB will be provided with the link ID and create an ASRB ID for that person.
- 4.3 SHIP alone will hold the key between the link ID and the SHIP ID and ASRB alone will hold the key between the link ID and the ASRB ID. SHIP will never have the ASRB ID and ASRB will never have the SHIP ID.

5. Sample and Data Ownership, Access and Timelines

- 5.1 The SHIP study will own the blood samples and epidemiological data collected for the SHIP component.
- 5.2 The ASRB study will own the blood samples collected for the ASRB component. However, the ASRB consent will include a capacity for the volunteer to notify the ASRB that they no longer want those items to be further used by the ASRB. If this occurs, then ASRB has contractually agreed with the participant to remove the items from the materials available for access.
- 5.3 Once the blood samples have been transferred to the ASRB, access to the DNA by researchers will fall under the established policies of the ASRB.
- 5.4 SHIP is contracted to collect, clean and report on the epidemiological data within the Phase 3 timeframe.
- 5.5 ASRB is seeking access to SHIP epidemiological data other than the minimum dataset described in Item 2.2. In the short-term, SHIP will provide access to epidemiological data while they are still managed by the SHIP Data Access and Publication Committee. In the long-term, SHIP will transfer epidemiological data for consented individuals to ASRB.
- 5.6 Access in the short term by ASRB to the SHIP epidemiological data of participants who consented to provide a blood sample to ASRB will commence at the end of Phase 3 of the SHIP study. The end of SHIP Phase 3 is defined as the delivery of the main report to the Australian Government Department of Health and Ageing and the submission of the first journal article for publication; it is anticipated that this will be in mid-2011. Access in the short term to the SHIP epidemiological data will be determined according to the SHIP Data Access and Publication Agreement.
- 5.7 The SHIP epidemiological data of participants who consented to provide a blood sample to ASRB will be transferred for long-term storage (without a transfer of ownership) to the ASRB database no earlier than two years after the completion of Phase 3 of the SHIP study and no later than five years after the completion of Phase 3. The end of SHIP Phase 3 is defined as the delivery of the main report to the Australian Government Department of Health and Ageing and the submission of the first journal article for publication; it is anticipated that this will be in mid-2011. Once the epidemiological data have been transferred to ASRB, access to these data will be governed by the ASRB's Access Agreement, subject to the project team completing the

Conditions of Use component of the SHIP Data Release Form for CURF Data Release to Bona Fide External Researchers.

6. Funding for Blood Samples

- 6.1 All funding to cover consumables at point of collection (if any), transport and processing of blood samples for the ASRB component will be provided by the ASRB.
- 6.2 All funding to cover consumables at point of collection (if any), transport and processing of blood samples for the SHIP component will be provided by the SHIP.
- 6.3 Any costs in relation to the blood draw for ASRB components that are additional to costs budgeted by SHIP for the SHIP blood draw will be paid for by the ASRB.

7. Management Committees

- 7.1 The SHIP epidemiological data will be managed by the SHIP Data Access and Publication Committee until such time that the data are transferred for storage with ASRB. This Committee will include an ASRB nominee.
- 7.2 The ASRB blood and extracted DNA collected as an adjunct to the SHIP data collection will be managed by the ASRB Genetics Subcommittee.
- 7.3 Oversight of the ASRB and SHIP collaboration will be governed by an ASRB nominee (Prof. Vaughan Carr) and SHIP nominee (Prof. Vera Morgan).
- 7.4 These nominees will be responsible for reviewing progress and advising the respective ASRB and SHIP committees on any issues which arise in regards to the collaboration.

8. Term

- 8.1 This MoU shall commence at and take effect from:
 - the time of the joint endorsement by the SHIP Technical Advisory Group and Project Implementation Steering Group of the SHIP Data Access and Publication Agreement and the SHIP-ASRB Memorandum of Understanding; and
 - the time of endorsement by the ASRB Governance Committee of the SHIP-ASRB Memorandum of Understanding.

And shall continue for a term of at least five years from the end of SHIP Phase 3 at which time it will be reviewed. The terms and conditions of this MoU may also be reviewed from time to time upon request and agreement by all parties.

9. Dispute Resolution

9.1 Any dispute arising out of this MoU shall, if unable to be resolved directly by the parties, be referred in the first instance to private independent mediation by a jointly acceptable, suitably qualified mediator.

10. Changes

10.1 Any change to this MoU must be in writing and signed by the parties.

11. Notices

11.1 Any notice, request or other communication in regards to the MoU shall be in writing and addressed, as follows:

11.2 If given to ASRB, it should be forwarded to the attention of:

Prof. Vaughan Carr
Australian Schizophrenia Research Bank (ASRB)
Schizophrenia Research Institute
405 Victoria Street
Darlinghurst NSW 2010
Telephone: (02) 9295 8691
Facsimile: (02) 9295 8689
Email: v.carr@schizophreniaresearch.org.au

11.3 If given to SHIP, it should be forwarded to the attention of:

Prof. Vera Morgan
Survey of High Impact Psychosis (SHIP)
Neuropsychiatric Epidemiology Research Unit
School of Psychiatry & Clinical Neurosciences
University of Western Australia
Level 3 Medical Research Foundation Building
Rear 50 Murray St
Perth WA 6000
Telephone: (08) 9224 0235
Facsimile: (08) 9224 0285
Email: Vera.Morgan@uwa.edu.au

IN WITNESS whereof the parties have executed this MoU on the day and date first above written.

SIGNED for ASRB by
Professor Vaughan Carr

.....
{signature}

in the presence of

.....
[name of witness]

.....
{witness signature}

SIGNED for SHIP by
Professor Vera Morgan

.....
{signature}

in the presence of

.....
[name of witness]

.....
{witness signature}

APPENDIX C

NEUROBEHAVIOURAL GENETICS UNIT: PUBLICATIONS AND ACKNOWLEDGEMENT POLICY

Neurobehavioural Genetics Unit (NGU)

This unit has been funded by a grant from the NSW Department of Health that commenced in 2008 and is administered by the Hunter Medical Research Institute. The Principal Investigator is Professor Vaughan Carr and the Co-Investigators are Professor Rodney Scott, Professor Brian Kelly, Dr Paul Tooney and Dr Murray Cairns.

The purpose of the NGU is to conduct molecular genetic analyses and related studies on the blood samples derived from the Australian Schizophrenia Research Bank (ASRB) and on the saliva samples derived from participants in the Australian Rural Mental Health Survey (ARMHS).

Individual scientists and research groups may apply to ASRB for access to biological samples to conduct their own genetic analyses. Alternatively, data resulting from the genetic analyses already conducted by NGU may be made available to scientists and research groups willing to enter into a scientific collaboration with the NGU investigators. In the former case, the ASRB policies would apply, including those concerning publication and acknowledgement. In the latter case, the following NGU policy would apply.

Publication and Acknowledgement of NGU Support

It is a requirement that any publications or presentations arising from research that has accessed genetic data provided by the NGU acknowledges the contribution of the NGU investigators in an appropriate way.

All publications or presentations arising from research accessing NGU data must include the following acknowledgement:

Genetic data in this study were provided by the Neurobehavioural Genetics Unit (Chief Investigators: Vaughan Carr, Rodney Scott, Brian Kelly, Paul Tooney, Murray Cairns), which is supported by a grant from the New South Wales Ministry of Health administered by the Hunter Medical Research Institute.

In addition, the NGU investigators must be included in the **author list** for any publications or presentations arising from the research as follows:

Vaughan Carr, Rodney Scott, Brian Kelly, Paul Tooney, Murray Cairns. Any one or more of these investigators would be free to exercise individual discretion to opt out of the authorship list if they think that is justified.

Please note that both authorship and acknowledgement must be included using the wording provided.

Reporting of Research Outcomes

The NGU is responsible for reporting outcomes arising from the unit's research to the NSW Ministry of Health.

It is a requirement that full details of any publications or presentations arising from research that has accessed NGU genetic data are provided to the NGU. The NGU requires that a PDF copy of all resulting publications be forwarded to the Centre for Brain and Mental Health Research manager (currently Annalese Johnson; annalese.johnson@hnehealth.nsw.gov.au) and/or professor Vaughan Carr.

Signed by the Recipient Scientists:

Recipient Organisation: _____

Project Name: _____

I / we (the undersigned) have read, understood, and agree with the above conditions of use associated with the NGU data.

Signature of recipient scientist

Signature of recipient scientist

Print name and date

Print name and date