

FINDING A SPACE FOR FIRST PEOPLES' SCIENCE: A vision for a National First Peoples Science Centre

Discussion Paper



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Commissioned by City of Parramatta and University of Sydney



Finding a Space for First Peoples' Science: A vision for a National First Peoples Science Centre

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Important notice

The information cited in this paper are current as at January 2020. This is general information only and does not constitute legal advice.

Contents

Introduction	3
Development of the idea for a National First Peoples Science Centre.....	4
Why do we need the First Peoples Science Centre?	5
First Peoples science and knowledge systems are 'Indigenous Cultural and Intellectual Property' (ICIP)	6
What will the First Peoples Science Centre do?	9
What are the issues that the First Peoples Science Centre will solve?	15
How can it be established?	15
Governance	16
What legal structure?	16
Ensuring First Peoples Independence.....	17
Who are the key partners?	18
Where should the Science centre be located?	18
Naming the Centre	19
Conclusion: Towards a National First Peoples Science Centre	19
Appendix A	20
Appendix B	21
References	23

Finding a Space for First Peoples' Science

A vision for a National First Peoples' Science Centre

Introduction

Australia's First Peoples have a wealth of knowledge and unique innovations based on their cultural values, practices, beliefs and relationships to the land, developed over millennia. This knowledge is not available anywhere else in the world because it is interconnected with Australia's unique ecosystems, biodiversity and social structures.

First Peoples' Science or Indigenous Science refers to traditional knowledge and cultural practices which have been passed on through the generations by Aboriginal and Torres Strait Islanders to understand and interact with the physical world. First Peoples relied on their environment for food, health, shelter and sustenance. They navigated by the stars and understood the cycles of life, adapting to changes. The relationship between First Peoples and the earth, the seas and the sky, is a close and spiritual connection. It is a relationship that has existed for over 65,000 years. Generally, Indigenous science is oral and practice based, holistic and broad. This can sometimes be a challenge for western science and how Indigenous knowledge systems should be recognised within the wider scientific community.¹

There is currently no national institution or centre in Australia that is controlled and curated by First Peoples to celebrate and utilise First Peoples' Science and knowledge systems in a coordinated and resourced way. A National First Peoples' Science Centre (**'First Peoples' Science Centre'**) has the potential to fill this gap and fulfil a broad remit, contributing to developments in science and technology, research, commercial innovation, preservation, succession, advocacy and self-determination outcomes.²

The idea for a First People Science Centre mirrors the proposal for a National Indigenous Cultural Authority (**'NICA'**) discussed at the Australia 2020 Summit. *Beyond Guarding Ground* by Terri Janke supported the proposal, arguing for greater infrastructure to support and defend Indigenous Cultural and Intellectual Property (**'ICIP'**) rights.³ The First Peoples Science Centre could achieve many of the objectives outlined in *Beyond Guarding Ground* for a NICA, or it could complement the work of such infrastructure.

This paper sets out the case for establishing a national First Peoples Science Centre and explores some of the issues that will need to be resolved to move forward. It outlines a practical plan for how the First Peoples' Science Centre could be established, and how its governance could enhance the protection of First Peoples rights.

Development of the idea for a National First Peoples Science Centre

As part of their work with the City of Parramatta Council, Steven Ross, a Wamba Wamba and Wiradjuri man and Alicia Talbot have been developing the idea for a First Peoples Science Centre since 2016. Steven works as the Community Capacity Building Officer at the City of Parramatta Council and Alicia previously worked at the Council as the Senior Strategic Project Leader.

In 2017, Ross and Talbot identified an opportunity to build the First Peoples Science Centre in partnership with the Westmead Health Precinct Redevelopment Project (**'Westmead'**) and the University of Sydney (**'USyd'**), who are building a new campus in Parramatta. With the current relocation of The Museum of Applied Arts and Sciences (**'MAAS'**) to Parramatta, they have also expressed an interest in being partners on the project.

In 2018, the City of Parramatta commissioned Cox Inall Ridgeway to convene and chair two small roundtables of First Nations Peoples to interrogate the proposal and outline the next steps for developing a First Peoples Science Centre. This delegation of First Nations Peoples acknowledged that the presence of a First Nations led science and knowledge centre within the Westmead Health Precinct could contribute to evidence-based healthcare by strengthening the critical connection between scientific research and Traditional Knowledge.

The roundtable also identified the City of Parramatta as the best placed to drive the progress of the project. Ross and Talbot have since started seeking feedback from Traditional Owners, the local Dharug community, museums and galleries. The proposal received strong support from roundtable participants who included traditional owners, First Nations academics, museum, science and legal professionals. There roundtable participants supported the overall concept with recommendations to strengthen and address cultural, legal and ethical considerations.

No formal agreements have yet been made with Westmead, USyd, or MAAS, although they have been in continuing discussions. This paper offers a broad outline for the First Peoples Science Centre proposal, which will be the basis of stakeholder engagements to take place in early 2020.

Why do we need the First Peoples Science Centre?

A key issue is that First Peoples knowledge has been and continues to be acquired and appropriated in an exploitative way, without engagement and proper understanding of the use and application of the material acquired. There are currently no national standards or regulations in place to ensure that First Peoples science and knowledge systems are used in collaboration with First Peoples custodians, or that First Peoples communities share in the benefits of the use of their knowledge. A First Peoples Science Centre can assist with protect and advice for Aboriginal and Torres Strait Islander communities. It can also advocate for standards and raise awareness of Indigenous Cultural and Intellectual Property rights. This can assist with ethical and fair collaborations.

First Peoples science and knowledge systems offer solutions for world problems from health to climate change. This brings innovation opportunity which can benefits in improving our lives and our environment. However, any innovation using First Peoples science and knowledge systems must have Indigenous people at the forefront. First Peoples people must benefit from the commercial and non-commercial use of their cultural knowledge. First peoples' culture and knowledge is increasingly being used in Western science and innovation, including:

- genomics;
- pharmacology;
- digital technology;
- agriculture and aquaculture;
- medicine;
- protection of biodiversity.

First Peoples science and knowledge systems are currently being used in commercial and industrial industries such as the health and beauty industry, and for innovations in cleaning products, adhesives and dye. The links made between First Peoples science and knowledge systems and Western fields of science and technology have benefitted both First Peoples and non-First Peoples, but there have also been issues were knowledge has been appropriated without Indigenous involvement, proper acknowledgement or benefit sharing. A 2019/2020 example is the use of the Gumby Gumby plant (*Pittosporum angustifolium*) which has been the subject of a patent, and trade mark by non-Indigenous business owners. Aboriginal people were outraged by attempts of the patent owners to stop them from selling Gumby Gumby remedies.⁴

A First Peoples Science Centre would establish a unique space for keeping, promoting and developing First Peoples science and knowledge systems in a way that upholds First Peoples' rights. It would be able to provide case studies and advice to guide partnering agencies in their work with Aboriginal communities in order to safeguard community knowledges and work toward more equitable solutions in science innovation.

First Peoples science and knowledge systems are ‘Indigenous Cultural and Intellectual Property’ (ICIP)

ICIP refers to First People’s rights to their cultural heritage. The concept of ICIP was developed by Terri Janke in her 1999 *Our Culture: Our Future* report on Australian Indigenous cultural and intellectual property rights.⁵

Cultural heritage comprises all objects, sites and knowledge, the nature or use of which has been transmitted or continues to be transmitted from generation to generation, and which is regarded as pertaining to a particular Indigenous group or its territory. It is a living culture and Indigenous people have rights and responsibilities in respect of it.

ICIP encompasses:

INDIGENOUS KNOWLEDGE	INDIGENOUS CULTURAL EXPRESSIONS
Languages Scientific, ecological and biological knowledge Astronomical and navigational knowledge Technical knowledge (construction) Medical knowledge Documented and recorded forms of Indigenous knowledge.	Artistic and literary works Performances (e.g. ceremonies; music, dance, song) Cultural property (e.g. possum skin cloaks; spears; shields) Ancestral remains First Peoples human genetic material Documented and recorded forms of Indigenous knowledge.



Types of ICIP © Terri Janke and Company

Indigenous heritage is living and constantly evolving. It varies from community to community and is transmitted from generation to generation. Many generations may contribute to the development of ICIP. In this way, ICIP is communally owned. Indigenous customary laws and cultural protocols determine who can know, share and make public ICIP. In relation to their ICIP, Indigenous peoples have the right to:

- Own, manage and control their ICIP;
- Be consulted about use of ICIP;
- Give or withhold consent around use of their ICIP (the “free, prior, informed consent right”);
- Make self-determined decisions about their ICIP;
- Protect their ICIP in a self-determined way;
- Be recognised as the primary guardians and interpreters of their cultures;
- Authorise or refuse to authorise the commercial use of their ICIP;
- Be given full and proper attribution for sharing their cultural heritage; and.
- Have control over the recording of Indigenous Cultural Expressions and Indigenous Knowledge.

1.1 Examples of First Peoples Science and Traditional Knowledge

The following are just a few examples of the incredibly diverse First Peoples Science and knowledge we have in Australia:

- First Peoples engineering:
 - The Brewarrina aquaculture weirs called “Baiaame’s Ngunnhu” (NSW).⁶
 - Gunditjmara eel farming aquaculture systems (Vic).⁷
- Complex processes of biodiversity conservation and land management:
 - Use of fire to regenerate particular areas of land, and to guide and control the growth patterns of plant life.⁸
 - Measuring biodiversity using Western field research techniques together with local First Peoples science and knowledge holders.⁹
- First Peoples astronomical knowledge used to predict changing seasons and the availability of food sources.¹⁰
- Medicinal knowledge:
 - Medicines made from native plants, animals (e.g. witchetty grubs), minerals and clays.¹¹
 - Healing practices which look at health from a holistic perspective by encompassing the physical, mental, emotional and spiritual elements of health.¹²

First Peoples Science in Action

Aboriginal Astronomy

“When the Pleiades star cluster rises just before the morning sun, it signifies the start of winter to the Pitjantjatjara people of the Central Desert and tells them that dingoes are breeding and will soon be giving birth to pups. The evening appearance of the celestial shark, Baidam, traced out by the stars of the Torres Strait Islanders indicates that they need to plant their gardens with sugarcane, sweet potato and banana. When the nose of Baidam touches the horizon just after sunset, the shark breeding season has begun, and people should stay out of the water as it is very dangerous...”¹³

Holistic Healing

The Anangu Ngangkari Tiutaky Aboriginal Corporation (ANTAC) have partnered with a public hospital in Adelaide to provide holistic treatments from Ngangkari healers to First Peoples patients.¹⁴

What will the First Peoples Science Centre do?

The First Peoples Science Centre will have six key functions:

1. Development of a National First Peoples Science and Knowledge Protocol (**‘the Protocol’**).
2. Collecting and keeping First Peoples science and knowledge for knowledge holders who wish to share their knowledge.
3. Building and administering the financial base of the Centre.
4. Supporting and funding research into practical applications of First Peoples science and knowledge.
5. Provide oversight and support for projects that employ First Peoples science and knowledge to ensure the implementation of the Protocol.
6. Public advocacy to validate First Peoples science and knowledge as equal to Western science and knowledge
7. Creating and maintaining employment and vocational opportunities for Aboriginal and/or Torres Strait Islander people.

All of these functions will be done with the aim of empowering First Peoples and ensuring equitable benefit sharing.

Function 1. Development of a National First Peoples Science and Knowledge Protocol

1.2 Why a National First Peoples Science and Knowledge Protocol?

Setting-out clear provisions on access to and use of First Peoples science and knowledge will:

- (i) provide the research and development sector with the certainty they need to invest in innovation.
- (ii) Promote and protect First Peoples science and knowledge by establishing minimum requirements for mutually agreed terms and model contractual clauses.
- (iii) Strengthen the ability of First Peoples communities to benefit from the use of their First Peoples science and knowledge.
- (iv) Elevate the bargaining power of First Peoples communities.

1.2.1 The True Tracks® Principles

The Protocol should be based upon the True Tracks® ICIP Principles, which provide best practice standards for engagement with First Peoples and their cultural heritage. They were developed in alignment with the rights outlined in the *United Nations Declaration on the Rights of First Peoples* (UNDRIP).

The Principles encourage a high degree of ethical conduct beyond the expectations of the legal system and promote interaction between organisations and community based on good faith and mutual respect.

The ten True Tracks® Principles are attached at **Appendix A**.

1.2.2 The Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization ('the **Nagoya Protocol**') is a global agreement that implements the access and benefit sharing obligations of the Convention on Biological Diversity (CBD). It was adopted in Nagoya, Japan in October 2010, and signed by Australia in 2012.

The Nagoya Protocol outlines principles to ensure:

- fair and equitable benefit-sharing;
- potential users of genetic resources obtain free, prior and informed consent from the community in which the genetic resource is located before accessing the resource;
- the terms and conditions of access and use of First Peoples science and knowledge are negotiated and agreed upon through the establishment of mutually agreed terms.

The Protocol should implement elements of the Nagoya Protocol. Implementing the principles of the Nagoya Protocol into its Protocols will make the First Peoples Science Centre an internationally significant institution. The relevant articles of the Nagoya Protocols are attached at **Appendix B**.

1.3 How should the National First Peoples Science and Knowledge Protocol be designed?

The Protocol must be co-designed with:

- Dharug Traditional Custodians of Parramatta;
- Traditional Owners from the rest of Australia who have consented to participate in the establishment of the Centre and may store their knowledge there in the future;
- The Parramatta and Western Sydney Aboriginal and Torres Strait Islander community;
- Leaders from First Peoples communities around the country; and
- experts in various fields of science and technology.

This process may involve workshops and meetings during the initial design stage, followed by a mechanism by which the content of the protocols can be agreed upon by the co-designers.

Function 2. Collecting and keeping First Peoples science and knowledge for knowledge holders who wish to share their knowledge

Collection and keeping of First Peoples science and knowledge will involve:

- physical locations for storing information and material;
- collation of digital databases; and
- written agreements with knowledge holders to govern future use of information and material.

In line with the Protocol, information will only be collected and kept by the First Peoples Science Centre with the free, prior informed consent of the First Peoples knowledge holders. The Protocol will provide a framework for systems and approaches that ensure information and material is collected and kept appropriately. For example, there could be a special “customary knowledge database” with different levels of authority to access that information.

Function 3. Building and administering the financial base of the Centre

The First Peoples Science Centre will be established as a not-for-profit organisation. However, it will require a significant and ongoing financial base to function effectively and fulfil its remit.

Building and administering the financial base of the First Peoples Science Centre will come under three branches:

- i) Fee for service
- ii) Philanthropy
- iii) Government funding

It is recommended that a business plan be developed and then the funding required over the short, medium and long term for the Centre can be identified. A plan outlining potential funding and investment opportunities should be included in the business plan.

1.3.1 Government funding

Some key sources of funding for the Centre to establish and do its work would be commonwealth, state and local government funding. Funding agreements between government entities and the First Peoples Science Centre should include clauses that protect ICIP and ensure IP ownership benefits the Centre.

1.3.2 Fee for service

A fee-for-service model will contribute to the financial sustainability of the First Peoples Science Centre. Some services which the Centre could charge for include:

- Certification services, for example:
 - **“Traditionally Harvested”**: guarantees that ingredients of product were traditional harvest and/or involved a First Peoples supply chain: for native foods, treatments, and beauty products (i.e.
 - **“Community Benefit”**: guarantees that benefits gained from project output benefits First Peoples communities who contributed to the project.
- Consultation and project design services to facilitate partnerships.
- Sale of publications and materials.
- Special discussion panels and thought leadership events to promote value of First Peoples knowledge and models of collaboration.
- Setting rates, and assisting in the collection of fees for use of cultural knowledge, for example, the Centre could make sure that any negotiated royalties are collected for the benefit of Indigenous communities.

1.3.3 Philanthropy

Philanthropy has the potential to provide significant financial support for the First Peoples Science Centre, raise public awareness of the Centre, and increase its social capital. For the Centre to accept philanthropic support, it will need to be established as a not-for-profit organisation and registered with the ATO as a deductible gift recipient (**‘DGR’**). DGRs need to be incorporated as a public company limited by guarantee, or as a corporation under the *Corporations (Aboriginal and Torres Strait Islander) Act 2006*.

This will option need to be carefully considered because there are specific requirements around registering as a DGR that significantly impact a company's governance structure, constitution and administrative obligations.

Function 4. Supporting and funding research into practical applications of ICIP

The First Peoples Science Centre is positioned to provide a range of world-class programs to support and fund research into practical applications of First Peoples science and knowledge. Such programs may include:

- Offering and administering grants to special research projects involving First Peoples science and knowledge, including projects lead by First Peoples communities, or industry and University-based researchers;
- Provision of teaching spaces and resources to explore First Peoples perspectives in various fields of science and technology.
- Staff members who provide specialised support on projects;

Further detail around how the First Peoples Science Centre can best support and fund research can be developed along with a strategic plan, organisational structure, and governance plan.

Function 5. Provide oversight and support for projects that employ ICIP to ensure the implementation of the National First Peoples Science and Knowledge Protocol

The process of establishing the First Peoples Science Centre provides an opportunity to develop innovative ways to implement the protocols. Some examples are outlined below.

1.3.4 Funding agreements

Implementing a requirement that all projects funded through the centre will abide by the protocols. Projects be engaged via agreements that oblige them to comply.

1.3.5 Connections with industry

- Through Reconciliation Australia's Reconciliation Action Plan ('**RAP**') program – encourage entities with RAPs to implement a target to abide by the protocols.
- Through lobbying and advocacy to encourage certification and signing onto the protocols.
- Annual reporting that provides information on those who have implemented the protocols.
- Awards night celebrating those who have implemented the protocols in unique, empowering and innovative ways.

1.3.6 Monitoring certified entities

Establishing a certification program with specific criteria establishes a method to monitor business and companies using ICIP, while adding market value to their products and services.

1.3.7 Control of Intellectual Property (IP) owned by the First Peoples Science Centre

Ownership of Intellectual Property (IP) presents considerable opportunities to protect ICIP. For example, where researchers, entrepreneurs and other entities wish to use IP owned by the Centre, licences can be arranged to ensure any ICIP is used in line with the protocols.

1.3.8 Engagement with First Peoples Communities

First Peoples who engage with the Centre may be offered tools and resources to help them protect their ICIP. Written agreements between the Centre and First Peoples should include a clause that covers ICIP protection and customary law requirements, as appropriate.

Function 6. Public advocacy to validate First Peoples science and knowledge as equal to Western science and knowledge

Approaches to public advocacy may involve:

- Campaigning to raise public awareness of the economic and social value of ICIP and its practical application in various scientific and technological fields. This may include campaigning on social media, speaking events and writing submissions to the government.
- Advocacy targeting specific fields of science and technology, organisations and industries. As stated above, this will be aimed at encouraging registration for certification and signing onto the Protocol.
- Holding events, workshops and exhibitions to share the Centre's outputs with the local community and general public.

What are the issues that the First Peoples Science Centre will solve?

1.3.9 Promotion of First Peoples Rights

In a discussion paper for IP Australia, *Indigenous Knowledge: Issues for Protection and Management*, Terri Janke and Company highlighted the lack of legal recognition of ICIP rights and the need for frameworks for agreements and collaborations between Western scientists and First Peoples.¹⁵ International standards in the United Nations (UN) and the World Intellectual Property Organization (WIPO) have called for greater recognition of First People's rights.

The Centre could be an international leader upholding First Peoples ICIP rights and ensuring ethical and mutually beneficial collaborations between Traditional Owners, researchers, entrepreneurs and innovators. There is potential to support and develop Australian industry and also create an international community of Indigenous Science Centres with similar functions. This is important given that many uses of First Peoples knowledge has occurred outside of Australia. The Centre can advocate and promote best practice protocols and the continuing connection to the source communities.

1.3.10 Promoting First Peoples science and knowledge by working with and empowering First Peoples communities

The First Peoples Science Centre would be a repository for the ICIP that Traditional Owners want to share, underpinned by cultural protocols and access prescribed by the knowledge holders themselves. In the past, Western institutions with ownership of ICIP have lacked frameworks to enable access to ICIP material by First Peoples. This has led to First Peoples communities distrusting Western institutions. The Protocol would be established as an institution that has cultural protocols at its heart, ensuring the protection and management of ICIP by First Peoples.

The Centre would also assist with the collection of knowledge and its repatriation to First Peoples. This is an especially important task in the digital age. Repatriation work contributes to the growing First Peoples cultural revival movement by returning ICIP to First Peoples communities who have been impacted by colonisation.

The Centre's resources and support would also facilitate innovation and entrepreneurialism within First Peoples communities to further strengthen culture.

How can it be established?

The First Peoples Science Centre will need wide stakeholder support in order to be established. This includes support from local and national Aboriginal and Torres Strait Islander communities; professional organisations, councils, government, science research institute, universities and corporates.

The roundtable discussions noted that it is important to ensure that First People’s voices are at the centre of decision making and that traditional knowledge holders drive the strategic direction. Discussions also acknowledged that the Centre should have First Peoples lore/law and culture as its core foundation.

Governance

The First Peoples Science Centre could have the following governance structure:

Strategic	A board of directors (all or majority Aboriginal and Torres Strait Islander people) that provide expertise in the science sector and set strategic direction.
Management	Management team who run the centre’s day to day operation, led by an Australian First Peoples CEO
Leadership	An Australian First Peoples CEO with requisite skills in science, management and First Peoples engagement
Ethics	An ethics committee of the board should be established with strong traditional owner representation and a mix of First Peoples professionals working in relevant research fields

What legal structure?

A key question is whether the Centre will stand alone or be part of an existing organisation or entity. A new legal structure could be formed. Similar First Peoples organisations have been established with the following legal status:

- an Indigenous Corporation under the ORIC legislation;
- A company limited by Guarantee with ASIC which could also be registered as a charity in compliance with the Australian Charities and Not-for-profit Commission;
- a private company.

There would be high costs involved in setting up as a new entity including employment costs, rent for premises, purchase of equipment and reporting and compliance costs. The new entity would also have high administration costs to establish.

To minimise costs, the Centre could be established within an existing entity and then achieve growth with the help and support of the larger entity. Independence could then be revisited after a five-year period. What is needed is a “guardian” or “patron” entity to assist the Centre establish.

The following entities have expressed an interest in partnering with the First Peoples Science Centre:

1. Westmead together with USyd

Developing the Centre as part of the Westmead complex could be a good option, particularly if the focus is on health science. However, discussions from the roundtable identified that the Centre should have a broader remit than health to include environmental science, astronomy and other fields of science and technology.

USyd, who are establishing a new campus in Parramatta, were involved in the roundtable and were early and continuing supporters of the concept. USyd has a First Peoples strategy, Wingara Mura-Bunga Barrabugu, an updates *Unfinished Business* strategy¹⁶ and the Mana Yura Student Support Centre. Many First Peoples researchers and scholars associated with USyd have developed their own ICIP Protocols and could provide advice on developing the Centre's National Protocols. Further, USyd has a Charter of Freedom of Speech and Academic Freedom which acknowledges 'the ancient learning cultures and traditions of Aboriginal and Torres Strait Islander peoples.'¹⁷

2. Museum of Applied Arts and Sciences (MAAS)

MAAS is currently relocating to Parramatta and has a history of supporting First Nations participation in the STEM industry. Marcus Hughes, the Head of MAAS Indigenous Engagement and Strategy instigated the Annual MAAS Indigenous Sciences Symposium in 2015. The annual Symposium has since promoted growth in Indigenous STEM networks across the scientific, education and research sector.

MAAS has also developed a strong role as an enabler of First Peoples innovation through the work of its First Peoples team, and by delivering science workshops to youth and women which have developed into digital, astronomy and health projects.

Partnering with MAAS may also present the opportunity for shared collection, spaces and other resourcing with the First Nations Science and Knowledge Centre.

Ensuring First Peoples Independence

In working with its partners, the National First Peoples Science Centre would need to ensure that there is independence to enable strong Aboriginal and Torres Strait Islander leadership and control:

- Establishing an independent First Peoples Advisory Committee;
- Ensuring sufficient representation of First Peoples on the Board;
- Enacting written agreements between the Centre and partners that ensure the independence of the science and strategy and enable a long-term plan that may see the Centre stand alone in a 5-10 year period;
- Clear protocols on ICIP;

- Understanding that the IP and data developed in the Centre will come under protocols, and ownership and control of First Peoples .

Who are the key partners?

To assist in its establishment and development, the Centre would need key partners such as:

- First Peoples including traditional owners, communities and organisations
- Universities, including The University of Sydney and Western Sydney University
- Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS)
- Museum of Applied Arts and Sciences
- Research entities
- Philanthropists in health and science
- Government – IP Australia, Department of Innovation, Industry and Science
- City of Parramatta local council – continuing role
- State Government – relevant departments, Aboriginal Affair NSW included, relevance to Ochre Plan.
- CSIRO, Questacon and other government agencies.

Where should the Science centre be located?

We are proposing that the First Peoples Science Centre be established in Parramatta, Western Sydney. This is because Western Sydney is home to the largest urban population of First Peoples in Australia. This location would also facilitate a connection with the City of Parramatta Council who initiated and have continued to drive development of the Centre.

1.3.11 Westmead Precinct

The Westmead Precinct Development in the City of Parramatta has been identified as a potential location for a National Science Centre.

The Westmead Precinct is currently undergoing a major transformation and is part of a development project that has the aim of making it a world-leading innovation district. The Westmead precinct is already 'one of the largest health, education, research and training precincts in Australia'.¹⁸

The development of the Westmead precinct presents an opportunity to locate the National Science Centre in an area that has longstanding and continuing connections to Australia's First Peoples. The traditional owners of the land where the Westmead precinct is situated are the Dharug people. The physical space should be a welcoming space for First Peoples to enhance collaboration. It could do this by being an Innovation Centre and by using First Peoples design concepts with input from key Dharug community members.

Naming the Centre

“The First Peoples Science Centre” is a working title which may not be suitable as a permanent name. An exciting option would be to give the centre a First Peoples language name. This would help to emphasise First Peoples co-design during the marketing stage of the project. If a language word is used it should be selected and used in consultation with local Aboriginal stakeholders. It would be appropriate to ask permission to use the local Dharug language.

Conclusion: Towards a National First Peoples Science Centre

The City of Parramatta have the opportunity to gain economic and social value from the establishment of a First Peoples Science Centre.

Australia’s Aboriginal and Torres Strait Islander communities hold ancient knowledge about ecosystems and species unlike anywhere else in the world. There is growing interest in areas of botany, ecology, pharmacology and anthropology to record and investigate First Peoples science and knowledge from a Western scientific perspective for new applications. The Centre will forge connections between fields of science and technology, industry, and holders of First Peoples knowledge.

The First Peoples Science Centre will highlight the value of First Peoples science and knowledge by working with and empowering First Peoples communities. It will promote First Peoples rights and support research into practical applications of their ICIP. This will be achieved through the development of a Protocol. By providing oversight and support for projects that use ICIP, the centre will ensure the implementation of the Protocol. Establishing a National First Peoples Science Centre will position Australia as an international leader in the promotion and protection and of ICIP.

Appendix A

The Ten True Tracks® Principles

1 RESPECT	Respect the right of First Peoples to maintain, control, protect and develop their cultural heritage, knowledge and cultural expressions; including First Peoples science and knowledge.
2 SELF-DETERMINATION	Participation decision-making processes relating to projects involving ICIP that so that First Peoples may freely determine their political status and pursue their economic, social and cultural development.
3 CONSENT & CONSULTATION	Free, prior and informed consent for use of ICIP must be sought from the relevant First Peoples parties before a project commences and continue throughout all stages, including future uses.
4 INTERPRETATION	Ensuring First Peoples control of the interpretation of their ICIP. Recognition of the relevant First Peoples as the primary guardians and interpreters of their ICIP.
5 CULTURAL INTEGRITY	Maintaining the cultural integrity of ICIP keeps culture strong and authentic. This involves respecting the customary laws and cultural obligations associated with the ICIP.
6 SECRECY & CONFIDENTIALITY	Respecting and protecting the confidentiality of certain ICIP material in accordance with First Peoples customary laws and community expectations.
7 ATTRIBUTION	First Peoples should be acknowledged and attributed as the owners of ICIP in addition to copyright attribution. First Peoples contributors, writers, creators, source communities and custodians should be attributed in a prominent place.
8 BENEFIT SHARING	Ensuring that First Peoples share in the benefits from the use of their ICIP, especially if it is being commercially applied. Contributors should be told all the ways they can, and cannot benefit from the use of their ICIP, and given a fair opportunity to negotiate the terms of usage.
9 MAINTAINING CULTURE	Consider how a proposed use of ICIP material might impact on the future use by First Peoples who are entitled to inherit the ICIP. For this reason, it is essential to get legal advice when entering into agreements.
10 RECOGNITION & PROTECTION	Australian policy and law should be used to recognise and protect ICIP rights. For example, Intellectual Property law, protocols and contracts can be used to help ensure the protection of ICIP.

The True Tracks® Guiding Principles are not linear or sequential but interrelate and overlap, reflecting the nature of ICIP. True Tracks® should, where possible, be applied throughout the life of any project or business activity involving ICIP.

Appendix B

Relevant Text of the Nagoya Protocol on Access and Benefit Sharing

The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity* is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way.

1.4 Article 1. Objective

The objective of this Protocol is the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components.

1.5 Article 2. Use of Terms

The terms defined in Article 2 of the Convention shall apply to this Protocol. In addition, for the purposes of this Protocol:

- (a) "Conference of the Parties" means the Conference of the Parties to the Convention;
- (b) "Convention" means the Convention on Biological Diversity;
- (c) "Utilization of genetic resources" means to conduct research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology as defined in Article 2 of the Convention;
- (d) "Biotechnology" as defined in Article 2 of the Convention means any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use;
- (e) "Derivative" means a naturally occurring biochemical compound resulting from the genetic expression or metabolism of biological or genetic resources, even if it does not contain functional units of heredity.

1.6 Article 7. Access to Traditional Knowledge Associated with Genetic Resources

In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by First Peoples and local communities is accessed with the prior and informed consent or approval and involvement of these First Peoples and local communities, and that mutually agreed terms have been established.

1.7 Article 12. Traditional Knowledge Associated with Genetic Resources

1. In implementing their obligations under this Protocol, Parties shall in accordance with domestic law take into consideration First Peoples and local communities' customary laws, community protocols and procedures, as applicable, with respect to traditional knowledge associated with genetic resources.
2. Parties, with the effective participation of the First Peoples and local communities concerned, shall establish mechanisms to inform potential users of traditional knowledge associated with genetic resources about their obligations, including measures as made available through the

Access and Benefit-sharing Clearing-House for access to and fair and equitable sharing of benefits arising from the utilization of such knowledge.

3. Parties shall endeavour to support, as appropriate, the development by First Peoples and local communities, including women within these communities, of:
 - (a) Community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge;
 - (b) Minimum requirements for mutually agreed terms to secure the fair and equitable sharing of benefits arising from the utilization of traditional knowledge associated with genetic resources; and
 - (c) Model contractual clauses for benefit-sharing arising from the utilization of traditional knowledge associated with genetic resources.
4. Parties, in their implementation of this Protocol, shall, as far as possible, not restrict the customary use and exchange of genetic resources and associated traditional knowledge within and amongst First Peoples and local communities in accordance with the objectives of the Convention.

1.8 Article 2 of the Convention on Biological Diversity provides the following definitions:

- "Genetic material" means any material of plant, animal, microbial or other origin containing functional units of heredity.
- "Genetic resources" means genetic material of actual or potential value.

For the full text of the Nagoya Protocol see: <https://www.cbd.int/abs/text/>

For the full text of the Convention on Biological Diversity see: <https://www.cbd.int/convention/>

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