AHRC Observatory Networks
Hybrid workshop 2, 24-25 March 2022, Greenwich

Day 1: Thursday 24th March

Boardroom, National Maritime Museum

10:30-10:55 (25 mins)
Arrival, registration and coffee; store luggage as required

10:55 (5 mins)
Welcome by the PI (Louise Devoy) and Co-I (Rebekah Higgitt)

11:00-11:20 (20 mins)
Emma Saunders (UK)
Overview of the RGO Archives at Cambridge, particularly in relation to our theme of 'living and working at the observatory'.

11:20-12:50 (90 mins)
Session 1: Staff and assistants at the Royal Observatory, Greenwich

- **Chair: Lee Macdonald**

Daniel Belteki (UK)
The winter of raw computers: how the working hours of the computers employed on the Lunar and Planetary Reductions of the Royal Observatory, Greenwich changed in the winter of 1839

Graham Dolan (UK)
Shaping the Royal Observatory: Employment regulations and local housing (1800–1936)

Caitlin Homes (UK)
Computer Networks in the First World War – what the wartime correspondence of the Greenwich Observatory staff can reveal about their professional and social relationships

12:50-13:35 (45 mins)
Lunch

13:35-14:00 (25 mins)
Minibus transfer to the Prince Philip Maritime Collections Centre (PPMCC)

14:00-15:45 (1hr 45 mins)
Session 2: Opportunity to see and discuss Royal Observatory artefacts in our stores with curator-led tours

15:45 Depart PPMCC
Minibus transfer to Blackheath Avenue to start a walking tour from the Observatory back to the Museum via local places of interest, courtesy of Graham Dolan (1h 15 mins, 3 miles/5 km).
Please wear comfortable walking shoes

We will return to the Boardroom by **17:15** so delegates can collect luggage if necessary.

19:00 Dinner for delegates in Greenwich
Details to follow in the delegate info packs

Day 2: Friday 25th March

Boardroom, National Maritime Museum

09:00-09:30
Tea and coffee available

09:30-11:00 (90 mins)
Session 3: Observatories as domestic spaces

- **Chair: Daniel Belteki**

Janet Laidla (Estonia)
Women Living at the Tartu Observatory

Toner Stevenson (Australia) (online)
Visitors, nightwork, pandemic and play: family life at Sydney Observatory, 1870 – 1970s [Pre-recorded video presentation]

Louise Devoy (UK)
Family life at the Royal Observatory, Greenwich, 1835-1933

11:00-11:15 (15 mins)
Break

11:15-12:15 (1 hr)
Session 4: Staff and assistants at colonial observatories

- **Chair: Louise Devoy**

Prashant Kumar (Germany)
The Instrumental Brahmin and the "Half-Caste" Computer: Astronomy and Colonial Rule in Madras, 1791—1835

Frédéric Soulu (France)
Indigenous actors of the French observatory sciences in Algeria in the colonial period (19th-20th century)

12:15-13:15 (1 hr)
Lunch

13:15-14:15 (1 hr)
Session 5: Geographies of observatories

- **Chair: Rebekah Higgitt**

Simon Naylor (UK)
The 'great experiment' of observatory meteorology on Ben Nevis, Scotland, 1881-1904

Keynote talk followed by a discussion on extreme and temporary observatory sites.

14:15-14:45 (30 mins)
Session 6: Open House

- **Chair: Lee Macdonald**

An opportunity for both online and in-person delegates to mention and promote any associated research projects, activities or events that resonate with the themes of 'Observatory Sites and Networks since 1780'.

We cannot share any presentation slides unfortunately but please do post any relevant web links in the chat, thank you.

The Project Team will also outline tentative plans for future publications and additional outputs from this project.

14:45-15:00 (15 mins)
Break

15:00-16:15 (75 mins)
Session 7: Final Discussion: Observatory Sites, Ideals and Failures

Pedro Raposo (USA), Ileana Chinnici (Italy) and Rebekah Higgitt (UK)

****End of workshop****

Session 1: Staff and assistants at the Royal Observatory, Greenwich

The winter of raw computers: how the working hours of the computers employed on the Lunar and Planetary Reductions of the Royal Observatory, Greenwich changed in the winter of 1839

Daniel Belteki

Royal Museums Greenwich

In 1839, the working hours of the computers employed on the Lunar and Planetary Reductions of the Royal Observatory, Greenwich was reduced from 11 hours to 8 hours. Historians writing about director of the Observatory (George Biddell Airy) have used the decreased working hours as an example of Airy's benevolent nature. The talk challenges this approach by exploring the letters exchanged between Airy and the computers that still survive in the archives. These documents demonstrate that the changes were proposed by one of the computers, and the letters depict the poor working conditions that the computers experienced.

The talk also highlights that this group of computers are often mistakenly considered by historians as part of the Observatory staff, which gave rise to misleading comparisons. Taking a mixture of approaches, the talk contrasts the experiences of Airy managing the computers with the personal experiences of the computers.

Discussion notes:

Session 1: Staff and assistants at the Royal Observatory, Greenwich

Shaping the Royal Observatory: Employment regulations and local housing (1800–1936)

Graham Dolan

Independent Researcher &
Curator Emeritus, Royal Museums Greenwich

Fundamental changes were made to the recruitment process for Computers and Assistants on several different occasions between 1800 and the outbreak of the Second World War in 1939. Between 1927 and 1936, all the Heads of Department and all the Assistants (across all the grades) had started their careers at the Observatory at the lowest level as Boy Computers (mainly at the age 14 or 15). This was in marked contrast to the period 1904 to 1917, when all six of the more senior Assistant posts were occupied by people, many with degrees, who had joined in their early 20s at the level of Second Class (junior) Assistant.

This presentation explores the changes made to the recruitment process by the successive Astronomers Royal. It goes on to look at where in the streets and suburbs nearby the individuals appointed as Assistants chose to live and what this can tell us about working relationships (and possible cliques) within the observatory.

Discussion notes:

Session 1: Staff and assistants at the Royal Observatory, Greenwich

Computer Networks in the First World War – what the wartime correspondence of the Greenwich Observatory staff can reveal about their professional and social relationships

Caitlin Homes, MSc (CHOSTM)

Teacher of Mathematics, James Allen's Girls' School

At the outbreak of war in 1914, the Royal Observatory in Greenwich counted nearly 50 men on its staff. Just over half of them were young men, aged 14 to 22, known as Temporary Supernumerary Computers. All the computers served in some way during the war, along with a high proportion of the older, permanent staff.

The RGO archive contains correspondence from about 30 of them, a dozen or so of whom became regular correspondents over the four-to-five-year period. Their letters reveal a network of young men connected via the Royal Observatory (R.O.) that spread across Europe and the Middle East during the war. The talk will use these letters to gain insight into their working lives at the R.O. and look at its role as a communications and support centre. It will also examine the use made of the computers' professional skills in wartime conditions.

Discussion notes:

Session 3: Observatories as domestic spaces

Women Living at the Tartu Observatory

Janet Laidla

University of Tartu

The astronomers house beside the Tartu Old Observatory was built in the 1820s and is connected to the observatory (finished in 1810) via a corridor. This was home of the head of the observatory until the 1920s when it was divided up into smaller apartments for the workers of observatory who needed it. For a century this was home for astronomer's wife and children and the small apartments remained to be used until the 2000s.

This presentation will introduce the astronomer's house and many of the remarkable women who lived there, such as the diligent housewives Emilie (1796–1834) and Johanna Struve (1807–1867), the artistic Minna Mädler (1804-1891) who accompanied her husband to solar eclipse expedition, and the professional artist Julie Hagen-Schwarz (1824-1902) who is perhaps even more famous than her husband. The presentation will conclude with the first women who worked at the observatory.

Discussion notes:

Session 3: Observatories as domestic spaces

**Visitors, nightwork, pandemic and play:
family life at Sydney Observatory, 1870 – 1970s**

Toner Stevenson

The University of Sydney, Honorary Affiliate History Department.

> 'When I was under ten, before my mother went back to school teaching, there'd sometimes be morning teas in the house. So, we did get to know, as much as a child gets to know, people. And we knew people's names…the women who worked in the observatory were very highly respected and relied on, obviously, for making all these accurate measurements.' (Rosamond Wood, Government Astronomer's daughter)

Sydney Observatory was workplace and home to the State Government Astronomers. This presentation will draw on experiences of three Government astronomers and their families: Henry and Emily Russell (1870-1907), William and Jessie Cooke (1912-1926), and Harley and Una Wood (1941-1974). During this one-hundred-year period there were momentous upheavals including female franchise, Federation, the 1900 bubonic plaque, two world wars and the 1919 influenza pandemic. There was also a massive change in the role of observatories, astronomy technology and research priorities, all of which influenced wives and children as well as the astronomers. Using poignant examples, this presentation will divulge the interplay as well as occasional tensions, between the private lives, workplace demands and public appearances of these three astronomical families.

Discussion notes:

Session 3: Observatories as domestic spaces

Family life at the Royal Observatory, Greenwich, 1835-1933

Louise Devoy

Royal Museums Greenwich, UK

While the Astronomer Royal and his assistants toiled at their observations and calculations, another world of domestic life continued in parallel behind the walls of Flamsteed House. Often overlooked within scholarship and museum displays, this domestic narrative can offer many rich seams of investigation, some of which I would like to highlight through the lens of two families at Greenwich, the Airys (1835-1881) and the Dysons (1910-1933).

Starting with the seventh Astronomer Royal, George Biddell Airy (1801–1892), his wife Richarda and their 9 children, we can see how the Observatory provided a unique backdrop to the Airy family's story of love, laughter, play, illness and tragedy, coupled with the stresses and strains of Airy's increasingly demanding job.

In the early 20th century, we can use the story of the ninth Astronomer Royal, Frank Dyson (1868–1939), his wife Caroline and their 8 children to highlight the reality of living in London during the First World War. Here we find elements of pragmatism, faith, charity work and duty running alongside Dyson's determination to keep the Observatory at work.

Two astronomers, two families and a multitude of stories: what was it really like to live and grow up at an observatory?

Discussion notes:

Session 4: Staff and assistants at colonial observatories

The Instrumental Brahmin and the "Half-Caste" Computer: Astronomy and Colonial Rule in Madras, 1791—1835

S. Prashant Kumar

Humboldt-Universität zu Berlin

What did observatories make possible for colonial rule? How was observatory work in turn marked by the knowledge and practices of those under colonial rule? Here I approach these questions via the social history of Madras Observatory.

Constructed in 1791 by the East India Company, the observatory was to provide local time to mariners, and served as a clearinghouse for the Company survey and revenue administration. I argue that the work of Madras 'Brahmin assistants relied upon their knowledge of *jyotiśāstra* [Sanskrit astronomy/astrology], and can be seen as a highly specialised form of the kind of South Indian scribal labor and knowledge which also staffed the Company's tax offices. But the Company did not only adapt preexisting forms of labor, attempting also to produce its own, at a school built near the observatory to train "half-caste" orphans as apprentice surveyors and assistant computers. The school, staffed by the Brahmins, drew upon knowledge and pedagogical practice associated with the *tinnai*, the monitorial schools in which upper caste children learned to read, write, and calculate. For a time, the observatory's social order was literally "half-caste."

I also consider how the relationship between caste, status, and instrument was reflected in the visual and material culture of the observatory, such as in Indian-language inscriptions on its central pillar. For Company Astronomers, the measurement of time in the colonies was both a technical and a historical project, concerned with reworking the relationship between the Indian past, the colonial present, and an imperial posterity. Observatory work under colonial rule spanned multiple temporal and social registers because it was the result of negotiations between the demands of political economy and the knowledge and practices of colonised others.

Discussion notes:

Session 4: Staff and assistants at colonial observatories

Indigenous actors of the French observatory sciences in Algeria in the colonial period (19th-20th century)

Frédéric Soulu

Observatoire de Paris – PSL (Chercheur en résidence CollEx-Persée)
Nantes Université, Centre François Viète d'épistémologie et d'histoire des sciences et des techniques (Chercheur associé)
France

Two state observatories were established on Algerian territory during the period of French colonial control (1830-1962): Algiers and Tamanrasset. In relation with the observatory of the Bureau des Longitudes of Montsouris (Paris), the former was set up in 1885 in the immediate vicinity of the colony's political centre. The second was created from 1930 in the Saharan desert, the 'Territoires du Sud' under military administration.

In this contribution, I propose to briefly contextualise the successive creations of these places, and then to take a look at the people who work there. I would like to emphasise the late and slow integration of indigenous workers and the changes that this implied in the life of these observatories.

Discussion notes:

Session 5: Geographies of observatories

The 'great experiment' of observatory meteorology on Ben Nevis, Scotland, 1881-1904

Simon Naylor

University of Glasgow

This paper examines the brief history of Britain's only mountain weather observatory: Scotland's Ben Nevis observatory, established in 1883 and closed in 1904. The study of high-level meteorology on Ben Nevis was promoted by key figures in the Scottish Meteorological Society – including David Milne Home, Thomas Stevenson and Alexander Buchan – as an opportunity to observe the upper currents of storms that tracked in from the Atlantic and affected northern Europe. A temporary observatory was established on the top of the mountain by Clement Wragge, who volunteered to walk to the summit and back daily during 1881-2. Wragge's efforts helped William Thomson and others to raise funds for a permanent observatory. Built in 1883, the summit observatory struggled through its first winter and required significant alteration in 1884.

Just as Wragge styled himself as akin to the Arctic explorer, the permanent observatory was run like a polar station, holding in tension a set of activities conducted in a treacherous external environment and in a highly domesticated interior. However, the staff's sense of the observatory as a place apart was undermined by the increasing popularity of the mountain as a tourist destination. While observers found common cause with the mountaineering community, inappropriately-dressed day trippers who meddled with the instruments and requested lunch or lodgings were judged to be out of place. The paper also considers the reasons for the closure of the observatory, including the complaints made about its operation by the Meteorological Council in London and complaints made the other way about lack of funding for science in Scotland.

Discussion notes:

Session 7: Final Discussion

Observatory Sites, Ideals and Failures

Pedro Raposo
Adler Planetarium, Chicago

Ileana Chinnici
INAF, Palermo Observatory, Sicily

Rebekah Higgitt
National Museums Scotland

To start off the final discussion session, Rebekah Higgitt will ask Ileana Chinnici and Pedro Raposo to set out two strikingly different cases of the pursuit of the ideal observatory in the nineteenth century: the establishment of the Imperial Observatory of Pulkovo in Russia, and the decentralization of astronomical observatories in Italy. Chinnici and Raposo will use these two cases to address broader issues of ideals and failures in observatory undertakings and their implications in terms of what it meant to work in an observatory, before the session opens out to general discussion, making connections with other papers and indicating possible topics for further research.

Discussion notes: