

BSHM-INI Joint Meeting  
Doing Mathematics in the Archive

16 May 2026, Isaac Newton Institute, Cambridge & Online

### Programme

- 10.30 Arrival & Registration  
Tea & coffee will be served
- 11.00 Michael Potter (University of Cambridge)  
*Archives in mathematical philosophy: Some case studies*
- 12.00 Aoife Kearins (University of Oxford)  
*Epistolary Mathematics in the 19th Century*
- 13.00 Lunch (included with ticket)
- 14.00 June Barrow-Green (Open University), Andrew Burbanks (University of Portsmouth),  
Dan Rust (Open University), Reem Yassawi (Queen Mary University of London)  
*George Birkhoff's forgotten manuscript*
- 15.00 Emmylou Haffner (CNRS)  
*Collective and personal archives in the genesis of Bourbaki's set theory book*
- 16.00 Tea & Coffee
- 17.00 Close of Meeting

### Abstracts

June Barrow-Green (Open University), Andrew Burbanks (University of Portsmouth), Dan Rust (Open University), Reem Yassawi (Queen Mary University of London)  
*George Birkhoff's forgotten manuscript*

In 1941 at the 50th anniversary celebration of the University of Chicago, George Birkhoff presented his programme for dynamics. A summary of his programme was published shortly afterwards but the manuscript for the complete programme—which was in the form of 17 unresolved questions—lay undiscovered in his archive at Harvard until recently. Last year, at the INI Modern History of Mathematics programme, we began systematically to work through Birkhoff's questions in order to determine the extent of his prescience, work which we have since continued.

In this talk we will describe our progress, outlining our methodology and the obstacles we faced. We will begin by describing the genesis of the manuscript before discussing some of the individual problems.

Emmylou Haffner (CNRS)

*Collective and personal archives in the genesis of Bourbaki's set theory book*

Founded in 1934-1935, the group known as Nicolas Bourbaki is primarily a collective author, the sole signatory of the *Éléments de mathématique*, a long-term publishing endeavour covering entire sections of pure mathematics. In this talk, I will unfold the genesis of early parts of the set theory book of the *Éléments*, using mainly hitherto unknown manuscripts from Henri Cartan's archive together with Bourbaki's archive. In doing so, I hope to shed light on two aspects: on one hand, some mathematical and epistemological contentious points in Bourbaki's discussion on logic and set theory; on the other hand, the different textual modalities involved in this (mostly) collective writing process.

Aoife Kearins (University of Oxford)

*Epistolary Mathematics in the 19th Century*

This paper will examine the essential role of correspondence to the development of mathematics in the 19th century, and particularly to the mathematisation of the sciences more broadly at this point. By examining the correspondence of the three most prolific Royal Society referees for the physical sciences in the 19th century – William Thomson, James Clerk Maxwell, and George Gabriel Stokes – I will show how private correspondence played the most significant role in collaborative practices in mathematics in the 19th century. In particular, I will focus on how mathematical ideas and notation arose through a process of communication and collaboration – facilitated by the newly introduced and affordable Uniform Penny Post – and how these figures most often used their private correspondence, rather than official referee reports, to edit, augment, and suggest mathematical expressions to their experimental counterparts. I will explore how mathematicians' letters in the archives can teach us about the process of doing mathematics at this time, and how this correspondence network played an indisputable role in the increased mathematicisation of the natural sciences during this period.

Michael Potter (University of Cambridge)

*Archives in mathematical philosophy: Some case studies*

Several of the most famous mathematical philosophers (Frege, Russell, Ramsey, Quine, etc.) left behind extensive bodies of unpublished papers. How these archives have been handled and what sort of information they give us varies greatly between the cases, however. I shall describe a few of them and attempt to draw some conclusions about how they should be regarded.