Call for Applications:
Summer Research Associates (Oxford, UK)

Spend the summer in Oxford, UK! Learn and apply powerful emerging mathematics for creating communications within and between complex systems under the mentorship of experts in the field.

We are a non-profit research institute dedicated to realising a world where the systems that surround us benefit us all, so that society can better cooperate on critical issues — the climate crisis, pandemic responses, agricultural modelling, global access to education, and more — through interconnected systems that consider holistic impacts. We develop new tools for collective inquiry and modelling, enabled by a combination of novel foundational mathematics, open-source software engineering, and meaningful collaboration with domain specialists.

Full time, hourly, temporary positions are available for 8–10 weeks each, starting in June and ending in August. Each position will be mentored by Topos research staff or a select number of invited mentors. All positions are full time (37.5 hours per week) employment.

These positions require collaboration within a multi-disciplinary research environment consisting of mathematicians, computational and computer scientists, and domain scientists (both theoretical and experimental) conducting basic and applied research in support of Topos' mission. Each Summer RA will complete a specific Topos project, and will write a blog post by the last week of their employment. These projects may include an internal talk, software contribution, or paper. You can read about the accomplishments of the previous cohorts at topos.institute/summer.

Topos is committed to building a team with diverse perspectives and life experiences, so those with personal or professional backgrounds underrepresented at Topos are highly encouraged to apply. We are dedicated to shaping the future of technology to ensure a more equitable and just world, and we believe that a technology that supports a healthy society can only be built by an organization that supports its team members.

Topos Research UK is a charity start-up in the UK (inc. 2024) with affiliated charity start-up Topos Institute in the US (inc. 2019). For more information,see topos.institute/legal.

Projects range fields including applied category theory; logic; programming languages; and science, technology, and society. Specific topics include, but are not limited to:

- Computational category theory using CatColab (Rust or Typescript skills recommended)
- Higher-dimensional category theory (including double category theory)
- Dependent type theory
- Declarative modelling and databases
- Proof assistants, formal verification, or structure editors
- Impact and social responsibility within mathematical research

POSITION RESPONSIBILITIES

The position requires collaboration within a multi-disciplinary research environment consisting of mathematicians, computational and computer scientists, and domain scientists (both theoretical and experimental) conducting basic and applied research in support of Topos' mission. Specific responsibilities may include:

- Participation in the development and analysis of new mathematical theories or new computational methodologies for scientific problems, often customized to complex and large-scale scientific applications. Approaches may span all research fields from STEM to the humanities, depending on expertise of the research associate and mentor.
- Delivery and support of mathematical technologies for various scientific disciplines and applications, and/or analysis, documentation, or guidance on their uses.
- Dissemination of research through peer-reviewed papers, technical reports, and blog posts, as well as seminar and conference presentations.

SKILLS & ABILITIES / WHAT WE SEEK FROM YOU

- Awareness of Topos' core scientific areas, including category theory, type theory, and programming languages
- Strong collaboration skills to work in teams and engage with Topos constituents
- Motivation and persistence in pursuing new research ideas
- Excellent written and oral communication skills to expert, broad scientific, and public audiences
- Ability to contextualize scientific work in wider cultural and social context

POSITION DETAILS

- **Job Title:** Research Associate
- **Job Location:** Oxford, UK (Required)
- **Position Type:** Temporary Full-Time
- **Employment Type:** Hourly
- **Start Date:** June–July 2027
- **Salary:** £18–22 per hour (commensurate with experience)

EDUCATION AND EXPERIENCE

- Graduate degree (or currently pursuing graduate degree) in Mathematics, Computer Science, Computational Science, Engineering, Physics, Philosophy, Sociology, Public Policy or a field relevant to the job duties of this position
- Experience developing or understanding mathematical theories or tools for engineering or science applications, with specific knowledge base as relevant to the project
- Experience doing research or engineering within a team environment
- Experience writing academic publications and/or working with modern scientific software tools and frameworks

Topos will accept applications until the 17th of January 2027
We aim to make offers by mid February

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, or disability.

There is evidence to suggest that women and people of colour are less likely to apply for jobs unless they believe they meet every one of the qualifications as described in the job description. If this role speaks to you, we encourage you to apply, even if you don't believe you tick all the boxes.

If you have questions about this position, please contact our Director of Operations, Diasmer Bloe, at diasmer.bloe@topos.institute.

Further information about Topos Institute, including our Blog and YouTube pages, can be found on our website: topos.institute.

To apply, please fill out the application form
by the 17th of January 2027