



## Recruitment Role Profile

<b>Job Title:</b>	Rights Lab Research Associate/Fellow
<b>School/Department:</b>	The Rights Lab (Beacon of Excellence) and the School of Mathematical Sciences
<b>Job Family and Level:</b>	R&T level 4 (research focus)
<b>Contract Status:</b>	Fixed-term for one year
<b>Hours of Work:</b>	Full time (36.25 hours per week). Part time applications working a minimum of 18.13 hours per week and applications for job share will also be accepted.
<b>Location:</b>	University Park Campus
<b>Reporting to:</b>	Dr Simon Preston (School of Mathematical Sciences/Rights Lab) and Dr. James Goulding (Business/Rights Lab)

### Purpose of the Role:

This role is part of the University's Rights Lab, a Beacon of Excellence that is delivering research to help end contemporary slavery. One of its flagship projects, the Rights Lab RADAR ("Remote Analytics for Development and Antislavery Research") is advancing mathematical models in support of antislavery research. The Research Associate (RA) will work as part of a multidisciplinary team under the supervision of Dr Simon Preston (RADAR lead in Mathematics) and Dr James Goulding (RADAR team lead), also working closely with Professor Todd Landman (Rights Lab lead on monitoring and evaluation), Professor Kevin Bales (Rights Lab research director), and Professor Sir Bernard Silverman (Rights Lab Professor of Modern Slavery Statistics).

This opportunity is grounded in the Rights Lab's partnerships with NGOs and private sector data providers across the world. In particular the role will support our collaboration with a key NGO partner on estimating global slavery prevalence, country by country. The RADAR team and the RA will offer statistical models for analysis and inference, beginning with advancing methodologies for particularly challenging countries. This will involve modelling with stochastic processes, staged regression analysis with censored data, modelling time-series and spatial data, and applying Markov Chain Monte Carlo methods. It will incorporate novel and challenging non-stationary and sparse datasets, including spatial data, event processes in the form of mobile phone data, and time series. The RA will also dig deep into new and existing data to conduct in-depth mathematical analyses around key themes (for example the relationships between slavery and poverty, health, economic sectors and the environment).

RADAR will also work to deliver a country-level index for the UK. The RA will assist in the design of research to estimate numbers of slaves across the UK, implement new methodologies that help us to understand the key vulnerability factors to enslavement, and bring innovation to estimation techniques. The team, including the RA, will work closely with government, NGO and law enforcement partners to develop a data collection and analysis methodology for this National Slavery Index. The work will likely include multiple systems estimation and extrapolation algorithms, work with finance and consumer data, suspicious activity reports, and supply chains data.

The RA will also initiate and execute new research, develop new funding applications in support of the Rights Lab RADAR, coordinate relationships with internal and external research partners and stakeholders, develop research publications, develop and deliver knowledge exchange towards impact, and contribute to the writing of policy and research reports for various audiences. The RA will have the opportunity to use initiative and creativity to identify areas for research, develop research methods and extend their research portfolio. She/he will be encouraged to build collaborative work between this Rights Lab project and its other current projects.

The role will involve travel, engagement with a wide range of antislavery and governmental organisations, the coordination of multiple project-strands and activities, and the juggling of new and emergent opportunities.

We welcome applications from recent PhD graduates or applicants who are close to completion, as well as from applicants with postdoctoral experience. This is a full-time job but we will consider applications from candidates who wish to work part-time. The role is available immediately as a fixed-term post for one year, with the potential for continuation. Informal enquiries may be addressed to James Goulding at James.Goulding@nottingham.ac.uk. Please note that applications sent directly to this email address will not be accepted.

The University of Nottingham is an equal opportunities employer and welcomes applications from all sections of the community.

<b>Main Responsibilities</b>	
1	To develop research objectives and proposals for mathematical developments within the area of development and antislavery.
2	To prepare research materials, including compilation of articles, literature reviews and acquiring datasets that support new or ongoing data projects at the Rights Lab RADAR.
3	To gather, analyse and illuminate data, interpret publications, evaluate texts and bring new insights to the research area.
4	To assist in the development of new statistical models, extending both established and novel approaches, methodologies and techniques in the field.
5	To write up material for research outputs, proof-read draft publications and co-write new outputs.
6	To help coordinate the operational aspect of research progress towards key milestones, and to support collaborative decision-making with colleagues across multiple Schools.
7	To work with the data team on an impact strategy, track impact and reputational activities that relate to our data work, and support the writing of any resulting impact case studies for REF.
8	To identify funding opportunities and assist in writing bids for research grant applications.
9	To write blogs, reports, policy briefings and other audience-specific material.
10	To build and maintain an active database of existing and potential data-provision partners, and to help to manage the Rights Lab RADAR's partnerships in this area.
11	To build relationships with internal and external contacts in order to exchange information, to form relationships for future collaborations and identify potential sources of funds and/or opportunities for long-term or short-term collaborations.
12	To introduce the Rights Lab RADAR at meetings with data-partners, and summarise/analyse key points from those meetings.
13	To plan, organise and deliver multi-stakeholder workshops and events, in line with research requirements.
14	To provide support, guidance and supervision to other staff, where appropriate in own area of expertise.
15	To collaborate with academic colleagues on areas of shared interest, for example, grant development, collaborative or joint research projects.
16	To plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others.

### **Knowledge, Skills, Qualifications & Experience**

	<b>Essential</b>	<b>Desirable</b>
<b>Qualifications/ Education</b>	A PhD in a relevant branch of Mathematics, Statistics, Computer Science, Physics or related field, or close to completion.	- Academic publications in respected venues. - A PhD topic with an application setting related to development issues.
<b>Skills/Training</b>	- Enthusiasm and passion for collaboration and innovation. - Excellent problem-solving capabilities and creativity. - Expertise in data analysis using statistical methods, especially regression. - Excellent communication skills. - Ability to manage a demanding workload and work to tight deadlines.	- Research expertise on applying mathematical approaches to data driven development / antislavery issues. - Expertise in one or more of: multiple systems estimation; item response theory; stochastic processes; limited dependent variable analysis; pooled cross section time series analysis; spatial statistics (e.g. weighting and

	<ul style="list-style-type: none"> <li>- Ability to critically analyse opportunities, situations, and policy and research documents.</li> </ul>	<ul style="list-style-type: none"> <li>gravity models); 2/3-staged least squares analysis; and Monte Carlo methods.</li> <li>- Ability to visualize results using geospatial analysis.</li> </ul>
<b>Experience</b>	<ul style="list-style-type: none"> <li>- Experience and expertise in programming in Python, R and/or MATLAB.</li> <li>- Experience of delivering varied projects and outputs.</li> </ul>	<ul style="list-style-type: none"> <li>- Experience of developing new approaches, models and techniques in a relevant research domain.</li> <li>- Experience in C++ (and specifically constructing C++ code to be called from Python, R or MATLAB).</li> <li>- First-hand experience of delivering research projects with external stakeholders and partners.</li> <li>- Experience with public speaking, and confidence to represent the Rights Lab at events and meetings.</li> </ul>