



## JOB DESCRIPTION

<b>Job Title:</b>	Postdoctoral Research Associate
<b>Department / Unit:</b>	Economics
<b>Job type</b>	Research
<b>Grade:</b>	RHUL 7
<b>Accountable to:</b>	Prof. Alessio Sancetta
<b>Accountable for:</b>	
<b>Purpose of the Post</b>	
<p>The post relates to recently awarded ESRC grant "Information Content and Dissemination in High-Frequency Trading" (Leverhulme grant reference number RPG-2021-359).</p> <p>The holder of the current post will join a team, consisting of Prof. Francesco Feri (Co-I, RHUL), Prof. Michael Naef (CO-I, Durham), Prof. Alessio Sancetta (PI, RHUL) to deliver a research project using state-of-the-art econometric and machine learning techniques coupled with economic experiments. The research will rely on high frequency data from the Lobster database together with data collected from economic experiments based on machine algorithms and human participants. The project requires specialized knowledge of econometrics and programming software, and continuous updating on the international research frontier in the area of machine learning, algorithmic trading and experimental finance.</p>	
<b>Key Tasks</b>	
<ul style="list-style-type: none"> <li>• To serve as full and equal team member in the development of the project research design and the data requirement.</li> <li>• Stay updated with the most recent research in the areas of predictive machine learning, causal econometrics and statistics, online economic/financial experiments.</li> <li>• Pilot, refine and optimise mathematical and computational techniques for algorithmic trading.</li> <li>• Establish causal relations in limit order book driven electronic markets.</li> <li>• Set up economic/financial experiments and analyse them using the relevant causal econometric techniques.</li> <li>• Develop coding skills in Python for purposes of econometric analysis, training trading algorithms, and programming economic experiments.</li> <li>• Run diagnostic estimations on the data and present the results.</li> </ul>	

- Take a leading role in overcoming methodological problems that arise during the project lifespan and discuss progress with the project team in regular team meetings.
- To engage with members of the project in meetings, as well as with other non-academic research users on behalf of the research team.

- Take on joint responsibility with the other team members for developing the project's research manuscripts for peer-reviewed publication
- Present results from the project at conferences as specified in the grant application.
- Undertaking selected training to advance their professional and personal development in research and impact as agreed with the grant holders.

#### **Other Duties**

The duties listed are not exhaustive and may be varied from time to time as dictated by the changing needs of the College. The post holder will be expected to undertake other duties as appropriate and as requested by his/her manager.

The post holder may be required to work at any of the locations at which the business of Royal Holloway is conducted.

#### **Internal and external relationships**

The following list is not exhaustive but the post holder will be required to liaise with:

- Prof. Francesco Feri, Project Co-I
- Prof. Michael Naef, Durham Business School, Project Co-I
- Prof. Alessio Sancetta, Project PI