Addendum

This document provides additional information relating to both specific aspects of the post/faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Job Purpose.

Job Title:	Research Assistant in Digitalisation of Bioenergy

Background Information/Relationships

The RA will work as an integral part of the new Supergen Bioenergy Impact Hub, supporting the Technology Development work package led by Dr Michael Short, and funded jointly by the BBSRC and EPSRC. The RA will be a part of a large consortium of researchers and industry participants from across the UK. The RA will work on existing code developed by the previous postdoctoral fellow working on the project to deliver, with industrial and academic partners, open-source tools and a digitalisation roadmap to rapidly digitalise the industrial bioenergy sector (e.g., gasification, anaerobic digestion, etc.). The RA will assume responsibility for developing and using advanced methods for real-time monitoring, optimisation, and control, for sustainability and economic performance optimisation utilising both traditional optimisation methods along with machine learning and artificial intelligence approaches. It is expected that the RA can use initiative and creativity to identify appropriate research methods and techniques, with Python fluency a requirement. It is also a requirement that the RA is familiar with the group's methods and tools and able to be on-site at University of Surrey regularly.

The RA will form an important part of a multi-disciplinary team and therefore will be expected to assist in project management and perform analysis and interpretation of results of their own research and assisting with that of other team members. The RA may need to collect and interpret data from a wide array of sources and collaborate between multiple universities and industrial partners. The RA will also write up results and prepare papers for submission to the project team, appropriate journals and conferences, and other outputs as required. Additionally, they will plan and manage their own research activity in collaboration with other members of the team, and the industrial partners. They may also be required to present their findings and models at workshops and train users. The RA may also be required to carry out administrative tasks associated with the funding, for example organisation of project meetings and documentation and implementation of procedures required to ensure accurate and timely formal reporting and financial control. The post holder may occasionally be required to supervise more junior research staff.

This is a fixed term contract for up to 10 months.

Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Job Purpose.

Qualifications and Professional Memberships	**Essential/ Desirable**
Masters degree in Chemical Engineering	Essential
Fluency in Python	Essential

Knowledge of process optimisation (Pyomo, nonlinear programming)	Essential
Knowledge of biogas processes and modelling	Essential

Key Responsibilities

This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities. This should be read in conjunction with those contained within the accompanying generic Job Purpose.

1. Assist in project management and perform analysis and interpretation of results of their own research and assisting with that of other team members.
2. Colkect and interpret data from a wide array of sources and collaborate between multiple universities and industrial partners.
3. Write up results and prepare papers for submission to the project team, appropriate journals and conferences, and other outputs as required.
4. they will plan and manage their own research activity in collaboration with other members of the team, and the industrial partners.
5. They may also be required to present their findings and models at workshops and train users.
6. The RA may also be required to carry out administrative tasks associated with the funding, for example organisation of project meetings and documentation and implementation of procedures required to ensure accurate and timely formal reporting and financial control.
7. The post holder may occasionally be required to supervise more junior research staff.

N.B. The above list is not exhaustive.