Research Fellow: Senior Clinical Data Engineer

CORRIB Research Centre for Advanced Imaging and Core laboratory

Ref. No. University of Galway 297-22

Applications are invited from suitably qualified candidates for a fixed-term full time contract position as a Research Fellow: Senior Clinical Data Engineer. The position is available immediately for a period of two years, with potential to extend subject to project success and funding acquisition.

The post-holder will join the Cardiovascular Research Centre for Advanced Imaging and Core Lab (CORRIB) which is a newly established centre of excellence for innovation, research, collaboration and education in Cardiovascular research in the National University of Ireland, Galway, Ireland in collaboration with several medical and biomedical institutions and centres at University of Galway http://www.universityofgalway.ie/corrib-corelab/.

The CORRIB research centre is led by two Medical Directors: Professor Osama Soliman and Professor Yoshi Onuma, and two senior consultants: Professor William Wijns and Professor Patrick Serruys, who founded the centre in January 2020. The centres' main focus is applied clinical translational research and the CORRIB centre operates in diverse cardiovascular areas under joint leadership with other University of Galway schools including biomedical engineering and school of computer sciences in the field of deep learning, computational modelling and big data.

Galway provides a unique ecosystem for Medtech and Cardiovascular research advancement. University of Galway have invested to build an end-to-end team of Medtech global experts - including prevention, diagnosis, treatment, research, clinical trials and new device and treatment discovery. The CORRIB Research Centre builds on this strategic priority and brings together some of the world's best in this field. This clinical research programme presents an unrivalled opportunity to work alongside such pioneers and global experts in cardiovascular imaging, clinical trials, and innovation in medicine, in an ambitious programme of cardiovascular clinical research in a University that values innovation and collaboration.

The Senior Clinical Data Engineer role acts process and technical lead for the Data Engineering/Programming function in CORRIB.

The successful candidate will have a leadership role in the establishment of clinical data engineering processes and software programming systems supporting all clinical research activities within the CORRIB Core Lab and Research centre.

The role will act as process and Technical lead to develop and maintain clinical systems that meet internal and external clients' needs.

The post holder will work across a programme of studies and will be responsible for supporting the requirements both investigator-led and commercial led clinical trials in line with budgetary and timeline commitments.

The role require a thorough understanding of the entire clinical research process to anticipate and fulfil the data needs of each study. They will also require an ability to manage multiple projects with multiple deadlines.

The role requires the ability to communicate effectively between the technical and non-technical, strong data analysis and synthesis skills, knowledge of data innovation, data integration design and data modelling, metadata management, problem resolution, programming, build and testing.

The role involves aggregating applicable data from all sources and devices, managing external data, programming offline listings, trend analysis, data review, data exports and transfers. Responsibilities will include developing standards and libraries to drive efficiencies within the group.

The post-holder will require a thorough understanding of database development as well as an understanding of the clinical research process to anticipate and fulfil the data needs of each study.

The role will involve working closely with the other members of the project team including Principal Investigators to devise the data requirements based upon a clinical trial protocol, liaising closely with the data management functional lead and other cross functional members as required. The role will involve database development in accordance with ICH GCP and ISO 14155 standards.

Job Description:
- Acts as a process and technical lead for the Data Engineering/Software programming function in CORRIB.
- Takes a leadership role in the design, building and testing of data engineering and software programming solutions, data products and systems within the CORRIB team, working with the team to establish workloads, timelines and priorities.
- Process lead for programming activities required for the development of Clinical trial databases for CORRIB Clinical research portfolio and service delivery requirements.
- Leads the coordination and delivery of clinical trial database development activities including database design, development, implementation, maintenance, and user support of clinical systems for multiple projects working alongside the Senior Data manager to plan, prioritise and resource accordingly and within budgetary and timeline commitments.

- Lead creation and programming of data listings and data programming specifications per specified study requirements.
- Create database solutions for complex data management issues including the development of automated solutions for CORRIB unit data receipt, capture and analysis needs.
- Program custom scripts to support data export, import and analysis from study databases, including the build out new API integrations to support continuing increases in data volume and complexity.
- Leads process for data integration design and lead identification and selection of appropriate technologies to deliver resilient, scalable and future-proofed data solutions.
- Designs and leads the implementation of data flows to connect operational systems, including clinical research electronic data capture, image analysis and reporting systems pertaining to CORRIB clinical research needs, designing and implementing interfaces as required with internal and external systems.
- Develops solutions for aggregating data from multiple sources and producing time sensitive reports and dashboards.
- Maintains awareness of the impact on the CORRIB organisation of emerging trends in data tools, analysis techniques and data usage.

- Leads on problem resolution with regards to issues in databases, data processes, data products as they occur and initiates actions, monitor services and identify trends to resolve problems, determining appropriate remedies and assisting with implementation, and with preventative measures as required.

- Applies standards and tools to design, code, test, correct and document moderate-to-complex programs and scripts from agreed specifications and is responsible for controlling subsequent iterations collaborating with others to review specifications where appropriate.

- Leads CSV activities as required for validation efforts in their area.
- Takes the lead project managing their area's portfolio to deliver within budgetary and timeline commitments.
- Supports the scale up of the team if required and acts as line manager as required for more junior members of the team.

- Delegate development tasks to the development team as appropriate.
- Work with the University' ISS department or external sponsors or clients as required to identify and support implementation of IT infrastructure needs for the CORRIB Core Lab and supports ISS department as required in upgrades to technologies affecting CORRIB.
- Develops and optimises Standard Operating Procedures (SOPs) to allow more efficient workflow in line with applicable regulatory requirements ISO14155, ICH-GCP, GDPR, 21 CFR Part 11 etc.
- Any other duties were relevant to this post which may arise and as requested by the CORRIB Core Lab Directors and CORRIB leadership.

Qualifications/Skills required:

Essential Requirements:

- Primary University degree in IT or Software Programming.
- Minimum five years relevant work experience in a data engineering/software programming related role with a minimum of two of the five years' experience supporting clinical research data engineering needs.
- Capable of leading and designing specific technical programmes independently
- Demonstrated Competency in some or all of the following Technologies: Python, AWS, Django, REST, JavaScript, GitHub, PostgreSQL, Docker
- Proficient in computer science algorithms and data structures.
- Ability to analyse research data management workflow and apply software or procedural solutions.
- Experience working with data analytics.
- Evidence of knowledge of clinical research associated processes and regulations.
- Demonstrated organization skills and flexibility to manage multiple tasks independently and meet deadlines.
- Experience both as a process lead and working as a team member with excellent communication and customer service skills necessary to effectively contribute to a dynamic clinical research unit.
- A high degree of motivation and ability to use initiative.
- Strong communication skills with a proven ability to demonstrate a good and confident command of spoken & written English, sufficient to successfully discuss and explain complex technical ideas in simple & concise terms to a diverse range of stakeholders.

Desirable Requirements:

- Knowledge of Machine learning and AI engineering principles and techniques.
- Demonstrated writing skills needed to translate system processes and associated manual processes into clear instructions and explanations
- Resource management experience.
- ICH-GCP Training and/or ISO 14155 Training

Salary: Research Fellow Point 1 €56,933 – Point 4 €62,037 per annum pro rata for shorter and/or part-time contracts (public sector pay policy rules pertaining to new entrants will apply)

Start date: Position is available immediately. Hybrid working will be considered for this role.

Continuing Professional Development/Training:

Researchers at University of Galway are encouraged to avail of a range of training and development opportunities designed to support their personal career development plans.

Further information on research and working at University of Galway is available on Research at University of Galway

For information on moving to Ireland please see www.euraxess.ie

Further information about our centre is available at http://www.universityofgalway.ie/corrib-corelab/. Further information about Corrib Core Lab is available in the attached brochure

To Apply:
Applications to include a covering letter, CV, and the contact details of three referees should be sent, via e-mail (in word or PDF only) to CorribCLABfinance@universityofgalway.ie

Please put reference number **University of Galway 297-22** in subject line of e-mail application.

Closing date for receipt of applications is 5.00 pm 2nd December 2022.

A panel may be formed for future similar posts.

All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment

University of Galway is an equal opportunities employer.