Birmingham Women's and Children's NHS Foundation Trust

JOB DESCRIPTION AND PERSON SPECIFICATION

JOB DETAILS

JOB TITLE: Bioinformatician / Clinical Scientist

BAND: Agenda for Change Band 7

LOCATION: Birmingham Women's Hospital, Regional Genetics Laboratory

DEPARTMENT: Laboratory Genetics

HOURS OF WORK: 37.5 per week

ON CALL/OUT OF HOURS: NO

ACCOUNTABLE TO: Director of West Midlands Regional Genetics Laboratory

RESPONSIBLE TO: Consultant Clinical Scientists, Head of Bioinformatics Team

DIRECTORATE: Genetics

We know that organisations which have strong values and behaviours do well and that employees are engaged, happy and motivated in their work. We've worked closely with staff to develop and embed our values and we will continue to ensure that they underpin the way we care for our patients and each other.

JOB INFORMATION

- To provide Bioinformatics skills and resources to the West Midlands Regional Genetics Laboratory.
- To be personally responsible for his/her own work, working with a high degree of autonomy, subject to the supervision and direction of the Bioinformatics lead or other designated senior staff.
- To be part of a bioinformatics team responsible for the delivery of core bioinformatics including the development, testing, validation and implementation of analytical pipelines required to analyse NGS data for a broad range of clinical diagnostic and research applications, such as targeted and exome sequencing as well as copy number analysis.
- To be part of a bioinformatics team responsible for the development, testing, validation and implementation of bioinformatics tools required to analyse data from other relevant technologies.
- To be part of a bioinformatics team responsible for web development including front end databases.
- To be part of a bioinformatics team responsible for writing new algorithms as required.
- To be part of a bioinformatics team responsible for database design and information structure (computer science).
- To be part of a bioinformatics team responsible for business analysis including process mapping and interfacing with the customer (e.g. clinical scientist, clinician, business support) and a team of developers to produce essential software applications.
- To support and train healthcare scientists and clinicians in the use of bioinformatics tools required to interpret data from NGS and other technologies for clinical applications.
- To work in collaboration with the Core Bioinformatics Facility at the University of Birmingham and University Hospitals Birmingham.
- To participate in working groups and meetings organised by the NHS bioinformaticians network ("NHS-NGS").
- To work with the Genomics England and data serviced from the 100,000 genomes project.
- This job description may be further defined to accommodate future bioinformatics developments.

CORE KEY RESPONSIBILITIES

PROFESSIONAL

MANAGEMENT

- To personally organise and prioritise their own workload and performance to meet diagnostic targets and appropriate deadlines.
- Plan manage and organise own workload to meet priorities.
- To develop and maintain good working relationships with individuals with different levels of bioinformatics knowledge, including scientists, technologists clerical and clinical staff within WMRGL, staff from other pathology disciplines, Trust IT and academic staff.
- Liaise with other genetics laboratories, genomic research institutes, bioinformatics companies and bioinformatics tool developers as appropriate.
- To be responsible for the safe and effective use of high performance compute infrastructure
- To encourage and motivate staff to obtain optimal results.
- To participate in the recruitment and selection of staff, as required by the Director.
- Demonstrate a professional and responsible manner at all times.
- To undertake other appropriate duties as delegated by the Director of department / Consultant Clinical Scientists.

CLINICAL GOVERNANCE

- To work with the genetics department to ensure achievement of and adherence to the standards required of a UKAS ISO15189:2012 accredited Laboratory, in close liaison with the Quality Lead and under the direction of the Head of Bioinformatics and ultimately the Director.
- To maintain the highest levels of patient confidentiality and comply with trust standards.
- To participate in the preparation of the department for UKAS Accreditation.
- To ensure that all members of staff abide by all statutory requirements, codes of practice, safety regulations and operational policies of the department and to be aware of these measures as applied to other sections.
- To ensure risk management and risk reporting strategy within the section functions effectively.

EDUCATION AND DEVELOPMENT

- To actively participate in the departmental seminar and CPD programmes, presenting as appropriate. This will extend to presenting data externally to clinical and research collaborators.

- To provide training of bioinformatics for scientific, technical, clinical and research personnel as appropriate and according to requirements of specific training programmes.

- Participate in training meetings with other trainers and the Training Officer to ensure a co-ordinated approach and effective delivery of training.

RESEARCH AND DEVELOPMENT

- To actively participate in research and development activities, and scientific reporting and dissemination of data as required by publication or presentation at scientific conferences (National and International).

- To contribute at a high level to the department's research portfolio.

- To contribute to grant applications as appropriate.

- The post holder will participate and lead in medium-term service development and enhancement. This may include:

- Evaluation and implementation of new methods.

- Evaluation of published developments and innovations and their transfer into clinical practice.

CLINICAL:

LABORATORY

- To develop bioinformatics tools, pipelines and processes to acceptable standards of quality and accuracy suitable for the analysis and interpretation of NGS data for a broad range of clinical diagnostic and research applications.

- To investigate methods for improved data storage and audit trail analysis for all processes.

- To develop bioinformatics tools and processes for the analysis for data from other technologies as required, e.g. solid state and mass analysers.

- To be involved in web development including front end databases.

- To create new algorithms as required.

- To be involved in database design and information structure (computer science).

- To be involved in business analysis including process mapping and customer – developer interfacing.

- To be aware of and address the literature and developments nationally and internationally in bioinformatics relevant to genetics laboratories.

- To develop and maintain custom variant databases required for clinical interpretation.

- To participate in the in evaluation, procurement and installation of software and hardware as required, including any replacement systems.

- To develop and review procedures relating to bioinformatics and to ensure they are kept up to date.

QUALITY

- To develop standard operating procedures for analytical pipelines and bioinformatics tools in line with current best practice guidelines and compatible with laboratory accreditation (UKAS).

- To work with all scientific and clinical teams to provide a bioinformatics service meeting high quality demands for safety and patient care.

- To participate in relevant internal and external quality control procedures.

- To monitor quality of the bioinformatics service.

PEOPLE MANAGEMENT

- To be responsible for the training of bioinformatics to a range of scientists including individuals participating in the national Scientist Training Programme (STP).

- To adhere to and perpetuate the District and Unit policies and procedures e.g. Equal Opportunities, Health & Safety and No Smoking.

- To perform individual personal reviews as part of the Trust staff appraisal scheme within own section or to other relevant staff as necessary.

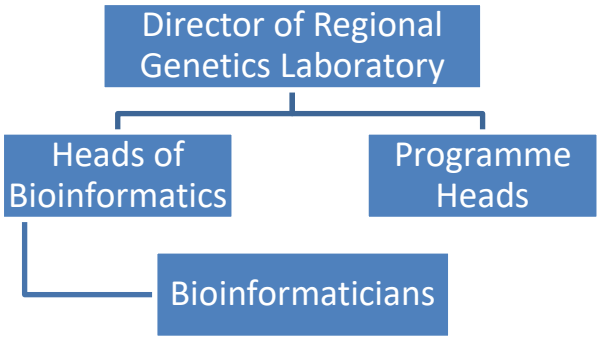
- To manage internal grievance and disciplinary incidents/situations in accordance with the Trust policy and procedures

- To manage and monitor sickness absence within own section.

SPECIFIC KEY RESPONSIBILITIES

The post holder will provide Clinical Scientist support out of hours as deemed necessary by the Director. They will participate in weekend and bank holiday rotas in a clinical scientist and technical capacity.

ORGANISATIONAL CHART



TRUST LEADERSHIP AND MANAGEMENT RESPONSIBILITIES

Provide effective leadership and management to staff which promotes the Trust's values and high performance standards both individually and as a team, in the achievement of the Trust's objectives and priorities. The Trust's success will be dependent on all managers playing an active role to make sure the existing areas of good employment practice are universally embedded within the organisation. Managers will be expected to:

- Understand the Trust's key priorities and those of your Department and how these translate within your area/team.
- Ensure clarity and effectiveness in developing and designing roles.
- Ensure management of staff is consistent with Trust's Values to the achievement of equality, equity and optimum performance.
- Complete annual Appraisals for all staff which reflect these priorities and ensure staff have access to appropriate training and development.
- Communicate regularly through meetings with teams and individuals and provide opportunity for two-way feedback.
- Promote an effective team ethos.

- Promote equality, diversity and rights, and treat others with dignity and respect ensuring services are developed, managed and delivered to meet the specific needs of those belonging to protected characteristics.

- Promote equality, diversity and Human Rights in working practices by developing and maintaining positive working relationships, ensuring that colleagues are treated fairly and contributing to developing equality of opportunity and outcomes in working practices.

PERSON SPECIFICATION

JOB TITLE: Bioinformatician / Clinical Scientist

BAND: Agenda for Change Band 7

LOCATION: Birmingham Women's Hospital, Regional Genetics Laboratory

QUALIFICATIONS	ESSENTIAL OR DESIRABLE	METHOD OF ASSESSMENT (A/I/T)
Degree in Computer Science or a Health Informatics discipline (first or second class with Honours) in OR relevant Biological Science with demonstrable abilities in informatics or computing	Essential	A / I
MSc in informatics/bioinformatics or equivalent	Essential	A / I
State Registration as a Clinical Scientist with the Health Professional Council	Desirable	A / I
Active participation in CPD	Essential	A / I
Participation in departmental seminars/journal clubs	Essential	A / I
Certificate of Competence/MSC healthcare scientist training programme	Desirable	A / I
Contribute to publications	Desirable	A / I
Completed Training for Trainers	Desirable	A / I

KNOWLEDGE & NATURE OF EXPERIENCE	ESSENTIAL OR DESIRABLE	METHOD OF ASSESSMENT (A/I/T)
Previous experience of bioinformatics and familiarity with NGS pipelines including analysis of genomic sequence data using appropriate bioinformatic software.	Essential	A / I
Previous experience of web development	Desirable	A / I
Involvement in new developments	Essential	A / I
Evidence of additional role(s)	Desirable	A / I
Proficiency in Python programming and pipeline frameworks (e.g. Ruffus, CWL).	Essential	A / I
Working knowledge of Django framework	Desirable	A / I
Working knowledge of R.	Desirable	A / I
Knowledge of Linux and commonly used command line tools	Essential	A / I
Ability to evaluate new technologies and informatics tools relevant to a modern genetics laboratory	Essential	A / I
Experience of software/algorithm development, testing, introduction, maintenance and support.	Essential	A / I

Knowledge of database design, development and administration including evaluating and understanding database schemas (data models).	Essential	A / I
Experience of project management.	Desirable	A / I
Knowledge of Trust and laboratory polices codes of practice and professional guidelines.	Desirable	A / I
Knowledge of principles of molecular biology and clinical laboratory genetics	Essential	A / I
Knowledge of the principles of molecular genomics techniques and of basic molecular biology techniques.	Essential	A / I
Experience of software/web based tools for genetic data analysis and pathogenicity prediction tools (e.g. SIFT, PolyPhen).	Essential	A / I
Knowledge of LIMS IT systems and appropriate automated software packages	Essential	A / I

ANALYTICAL AND JUDGEMENT SKILLS	ESSENTIAL OR DESIRABLE	
Excellent problem-solving skills and ability to adapt to new problems and ideas	Essential	I

PROFESSIONAL / MANAGERIAL / SPECIALIST KNOWLEDGE	ESSENTIAL OR DESIRABLE	METHOD OF ASSESSMENT (A/I/T)
Ability to communicate highly complex information in both verbal and written formats	Essential	I
Proven organisational skills	Essential	I
Excellent organisational skills	Essential	I
Ability to work independently under the direction of senior staff	Essential	I
Ability to pay attention to detail and maintain accurate records	Essential	I
Effective team worker and ability to give technical training to other staff	Essential	I
Ability to produce bioinformatics pipelines to acceptable standards of quality and accuracy for NGS data and other genomic technologies	Essential	I
Ability to communicate scientific and bioinformatic findings to local and national meetings and conferences	Essential	I

PERSONAL SKILLS / ABILITIES AND ATTRIBUTES	ESSENTIAL OR DESIRABLE	METHOD OF ASSESSMENT (A/I/T)
Ability to work under pressure	Essential	I
Flexible approach to work to tight deadlines	Essential	I
Good interpersonal skills to enable adequate communication with a wide range of clinical and non-clinical colleagues as well as academic and other IT professionals	Essential	I
Enthusiasm/motivation	Essential	I
Self-motivated and desire to develop new skills as required	Essential	I
Self confidence	Desirable	I

OTHER REQUIREMENTS	ESSENTIAL OR DESIRABLE	METHOD OF ASSESSMENT (A/I/T)

I understand and accept my accountabilities and responsibilities as outlined in this job description and person specification.

	Designation	Name	Signature
Post Holder			
Manager			

Date of JD/Person Specification:

Date of Review:

Version: