FURTHER PARTICULARS

The School

The London School of Hygiene & Tropical Medicine is a world-leading centre for research and postgraduate education in public and global health. Our mission is to improve health and health equity in the UK and worldwide; working in partnership to achieve excellence in public and global health research, education and translation of knowledge into policy and practice.

Founded in 1899, the School has expanded in recent years at its two main sites on Keppel Street and Tavistock Place. Our staff, students and alumni work in more than 150 countries in government, academia, international agencies and health services. Research income has grown to more than £110 million per year from national and international funding sources including UK government and research councils, the European Union, the Wellcome Trust, Gates Foundation and other philanthropic sources. The School’s multidisciplinary expertise includes clinicians, epidemiologists, statisticians, social scientists, molecular biologists and immunologists, and we work with partners worldwide to support the development of teaching and research capacity.

Our education provision has expanded to more than 1,000 London-based Master's and Research students, 3,000 studying postgraduate courses by distance learning, and 1,000 each year on short courses and continuous professional development. Our free online courses (Moocs) are studied by more than 30,000 participants globally.

The School performs well in various global university league tables. In the US News Best Global Universities Ranking 2017, we are ranked sixth in the world (together with Oxford University) in the fields of social sciences and public health. In the 2016 CWTS Leiden Ranking, the School was ranked fifth in the world for research impact across all disciplines, based on the share of institutions’ outputs within the top 1% of papers by citation in all areas of science and independent of size of output.

The School was named University of the Year 2016 by Times Higher Education, in recognition of our response to the Ebola epidemic. The School is a member of the M8 Alliance of Academic Health Centers, Universities and National Academies, the Association of Schools of Public Health in the European Region, and the Consortium of Universities for Global Health.

THE FACULTY

The Faculty of Epidemiology & Population Health (EPH) houses a large group of epidemiologists, demographers, statisticians and nutritionists working on issues of major public health importance in the UK and globally. EPH has approximately 400 staff members organised into four research departments.

- Department of Infectious Disease Epidemiology
- Department of Medical Statistics
- Department of Non-communicable Disease Epidemiology
- Department of Population Health
The Faculty has a teaching programme consisting of ten MSc courses: Epidemiology, Demography and Health, Medical Statistics, Public Health in Developing Countries (run jointly with the Faculties of Infectious & Tropical Diseases and Public Health & Policy), Nutrition for Global Health, Reproductive & Sexual Health Research, Veterinary Epidemiology (run jointly with the Royal Veterinary College), Global Mental Health (run jointly with Kings College London - Institute of Psychiatry) and the Distance Learning courses in Epidemiology and Clinical Trials. The Faculty also has approximately 120 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor John Edmunds.

THE DEPARTMENT

The Department of Population Health (DPH) aims to increase global access to effective treatments and public health interventions, and is a centre of excellence in the measurement and analysis of global consequences of population change. DPH is home to five research groups:

Nutrition Group: addressing major nutrition and food-related problems that affect human development;

Global Mental Health: conducting research and capacity building in policy, prevention, treatment and care for people living with mental, neurological & substance use disorders;

Maternal & Child Health Intervention Research: conducting intervention trials to improve maternal, new born & child survival, and child growth development;

Clinical Trials Unit: a fully registered under UK regulations to co-ordinate and conduct clinical trials in low, middle and high income countries; and the Population Studies Group: conducting research in reproductive & sexual health, the demographic impact of AIDS in Africa, evolutionary and family demography.

THE POPULATION STUDIES RESEARCH GROUP

The Population Studies Group (PSG) is engaged in measuring and explaining population trends and evaluating attempts to modify them. With 25 staff, PSG represents the largest research group in Britain concerned with demography, reproductive health research, and related disciplines. The Group is active in research both on Britain, Europe and other developed countries, and in research on the developing world, where it has a regional focus on sub-Saharan Africa and South-East Asia.

PSG has strong programmes of research on the demographic impact of the AIDS epidemic in Africa, reproductive and sexual health, and in evolutionary demography, adopting a multidisciplinary approach to its activities. The staff combine expertise in demography and reproductive health with backgrounds and experience in sociology, anthropology, psychology, policy analysis, operations research, economics, mathematics, statistics, data management, biology, epidemiology and public health. PSG provides most of the teaching for the MSc in Demography and Health and the MSc in Reproductive & Sexual Health Research, supporting distance learning courses as well as courses based at LSHTM.

Professor Basia Zaba runs the ALPHA network, which brings together ten collaborating African research institutions, which conduct demographic surveillance and population-based HIV surveillance in eastern and southern Africa. The LSHTM coordinating team consists of 10 staff: demographers, epidemiologists, statisticians and data managers, mostly based in London, but some based at the collaborating studies in Africa. With core funding from the Wellcome Trust, the network runs analysis workshops to bring diverse data sets into a common format in order to conduct comparative studies and meta-analyses on pooled data sets. ALPHA regularly contributes detailed statistical estimates of HIV incidence, mortality patterns and fertility impacts to the UNAIDS Reference Group on Estimates and Projections, which oversees data and methods used for producing HIV epidemic updates and projections in African countries. It supplies anonymised individual level data to the modelling community through an agreement with the HIV Modelling Consortium. ALPHA’s recent investigation of HIV mortality change in the context of the roll-out of Anti-Retroviral Therapy as well as the policy analyses, facility surveys and qualitative studies providing the context to the cohort analyses were funded by the Bill & Melinda Gates Foundation.
This post is part of a new project funded through a Wellcome Trust bio-medical resource grant to LSHTM and the Africa Health Research Institute (AHRI) http://www.africacentre.ac.za/ The project will ensure that each ALPHA study is linked to a clinic study in the same geographical area so data from the two sources can be jointly analysed by linking individual records from each source. It will use proven data harmonisation technology to facilitate conversion of raw data held by each study to formats that can be analysed jointly and shared with other researchers. The data harmonisation technology, Centre-in-a-Box, (CiB) was developed by the lead technical investigator of this project, Dr. Kobus Herbst, deputy director of AHRI. It uses PENTAH0 data integration software to extract, transform and load each site’s data into harmonised, pooled datasets. Summary statistical updates will be disseminated through ALPHA web pages, and pooled data will be archived in a public repository using standards developed by the Data Documentation Initiative.
**JOB DESCRIPTION**

<table>
<thead>
<tr>
<th>Job Title:</th>
<th>ALPHA network Data Analyst</th>
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</thead>
<tbody>
<tr>
<td>Department /Division/Unit:</td>
<td>DPH</td>
</tr>
<tr>
<td>Faculty/Professional Service:</td>
<td>EPH</td>
</tr>
<tr>
<td>Location:</td>
<td>LSHTM, Keppel St., London</td>
</tr>
<tr>
<td>Reports to:</td>
<td>Associate Professor Emma Slaymaker</td>
</tr>
<tr>
<td>Responsible for:</td>
<td>Developing Pentaho applications for harmonizing and analysing ALPHA data</td>
</tr>
<tr>
<td>Full Time/Part Time/Casual:</td>
<td>1.0 FTE</td>
</tr>
<tr>
<td>Hours <em>(if less than full time):</em></td>
<td></td>
</tr>
<tr>
<td>Grade:</td>
<td>PSP 6</td>
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</tbody>
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**Overall Purpose of the job**

Under the general supervision of the grant holders of the ALPHA network bio-medical research grant, and with technical assistance from the Senior Data Manager/Informatician the Data Analyst will be responsible for strengthening data linkage and data management systems in ALPHA sites by developing systems to transform data from native databases to a harmonized format and to support the data systems underlying the further analysis and sharing of the harmonized data.

**Principal Duties and Responsibilities**

**Programming**
- Work with data analysts at LSHTM to understand and further develop the harmonized data structures and formats into which site specific data is transformed
- Develop data extraction, transformation and loading (ETL) programs using the Pentaho Data Integration tool set at ALPHA sites in Eastern and Southern Africa.
- Understand the operational (data collection) databases of participating ALPHA sites and assist site data managers to develop ETL procedures to transfer site-specific data into a common structure and format
- Collaborate with IT teams in AHRI in the design and development of data quality metrics for the harmonized data structure
- Design and develop ETL programs to generate the standard ALPHA data sets from the harmonized data structures
- Prepare anonymized versions of data sets for public use according to conditions agreed with ethics committee(s)
- Transfer the ALPHA data sets to the ALPHA data repository, and manage access to repository data

**Training**
- Support ALPHA site data managers in the use of the CiB and ETL programs
- Develop training curricula and training materials
- Deliver training at ALPHA workshops
- Provide in-service training to site data managers if required
- Collaborate with ALPHA data documentalist to train site data managers to produce metadata for ETL processes as well as for their site-specific data

**Technical support**
- Provide technical support and CiB advice to ALPHA data analysis staff
- Advise collaborating users of ALPHA data at LSHTM e.g. ANDLA, DREAMS, SHAPE and MESH
- Assist with the configuration of the ALPHA analytical server and advise about communication with local CiB data appliances
- Develop ETL procedures as required for specific data analysis tasks

**Communications**
- Communicate daily with ALPHA line managers, Senior Data Manager/Informatician
- Maintain close links with counterpart programmers and other IT staff at AHRI in South Africa
- Interview CiB users at ALPHA sites to determine the data processing and other requirements
- Communicate with ALPHA scientists, analysts and other data users
- Review and discuss data transformations prepared
- Produce high quality technical documentation of databases, standard operating procedures, programmes and data specifications
- Develop the ALPHA network web page to reflect the progress of the CiB project

**Teamwork and Motivation**
- Assist the Senior Data Manager / Informatician in setting goals and identifying what needs to be done, by CiB users and analysts in LSHTM and at the ALPHA sites
- Work closely with the ALPHA Data Documentalist

**Liaison and Networking**
- Liaise with project staff in LSHTM and AHRI to understand system development plans
- Prototype the systems developed and refine in collaboration with IT staff at AHRI
- Build relationships with data managers at the ALPHA sites to understand their requirements
- Liaise with researchers and data managers to ensure data integrity is maintained
- Liaise with managers of the iSHARE data repository at INDEPTH concerning curation of ALPHA data

**Service Delivery**
- Respond to requests for information about systems development from external collaborators
- Be proactive in exploring and understanding the needs of ALPHA data users
- Assist with requests for help from CiB users at ALPHA sites

**Decision Making**
- Under the guidance of the technical project leader at AHRI and other ALPHA project leaders in LSHTM assist in decisions about systems design principles
- Assist ALPHA staff in decisions about data transformation, storage and extraction
- Participate in collaborative decisions on presentation of the CiB systems to users in LSHTM and at ALPHA sites in Africa
**Planning and Organising**

- Under the direction of the technical project leader at AHRI and other ALPHA project leaders in LSHTM, prioritise and organise his/her own work in developing the Pentaho procedures.
- In liaison with the technical project leader at AHRI and other ALPHA project leaders in LSHTM plan and organise the iterative steps required to develop the CiB systems.
- Plan ALPHA site visits and training activities with counterparts at AHRI.

**Initiative and Problem Solving**

- With the supervision of the technical project leader at AHRI and other ALPHA project leaders in LSHTM, develop systems and programs to harmonize and ultimately share ALPHA data.
- Under the guidance of ALPHA analysts, and harnessing the knowledge of scientists at the ALPHA sites ensure the integrity of the transformed data and its suitability for the proposed analyses.
- With the support of the technical project leader at AHRI and ALPHA analysts at LSHTM, develop the procedures and processes needed to share data and selected statistics with external users.

**Analysis and Research**

- Contribute to project presentations, posters and publications by commenting on drafts produced by project research staff and external collaborators.
- Analyse and review all current documentation relating to the systems developed.
- Liaise and assist the Data Documentalist in profiling the data and the transformation process.

**Generic duties and responsibilities of all LSHTM employees**

This job description reflects the present requirements of the post but may be altered at any time in the future as duties and responsibilities change and/or develop providing there is full consultation with the post-holder.

The post-holder will carry out any other duties, tasks or responsibilities as reasonably requested by the line manager, Dean of Faculty, Head of Department or Director of Professional Service.

The post holder will be responsible and accountable for ensuring all School policies, procedures, Regulations and employment legislative requirements are adhered to including equality and diversity and health and safety.

*This job description is not a definitive or exhaustive list of responsibilities but identifies the key responsibilities and tasks of the post holder. The specific objectives of the post holder will be subject to review as part of the individual performance review (appraisal) process.*
PERSON SPECIFICATION

This form lists the essential and desirable requirements needed by the post holder to be able to perform the job effectively.

Applicants will be shortlisted solely on the extent to which they meet these requirements.

**Job Title:** Data analyst for ALPHA network

**Department/Division:**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Evidence</th>
<th>E / D</th>
</tr>
</thead>
</table>
| **Education, Qualifications and Training** | • Degree in computer science or other information technology (IT) field  
  • Post-graduate qualification in data science or other IT field | E     |
| **Experience**                      | • Experience of using statistical packages  
  • Familiarity with Stata  
  • Experience in Java programming in real world applications  
  • Experience with data extraction, transformation and loading  
  • Familiarity with PENTaho  
  • Familiarity with computer virtualization, e.g. VMWare, Hyper-V or Docker  
  • Experience of work in research data management  
  • Experience of working in Low or Middle Income Countries | E D E D D D |
| **Knowledge**                       | • Knowledge of Data Base and SQL programming  
  • Familiarity with concepts of Generic Longitudinal Business Process Models  
  • Knowledge of epidemiology or demography or medical statistics | E D D |
| **Personal Qualities**              | • Good organisational and problem solving skills, with an ability to identify and resolve issues and prioritise workloads  
  • Willingness to travel to ALPHA sites in rural parts of Southern and Eastern Africa for two to three week trips  
  • Excellent interpersonal skills and communication skills, including a proven ability to establish and maintain effective working relationships with individuals from different backgrounds  
  • Ability to teach and explain complex technologies  
  • Ability to solve problems quickly and effectively with attention to detail  
  • Ability to work independently and use initiative, as well as work in a team  
  • Good planning and organizational skills  
  • Being adaptable and tolerating stress | E E E D D |

E-Essential: Requirement without which the job could not be done  
D-Desirable: Requirements that would enable the candidate to perform the job well
Accountability

The post-holder will be responsible to Associate Professor Emma Slaymaker and Assistant Professor Keith Tomlin. Line management will be through the Leader of the PSG research group to the Head of the Department of Population Health at LSHTM.

Salary and conditions of appointment

The appointment is available from 1st September 2017 for 1 year initially, with strong likelihood of extension. The appointment will be based in London in the Faculty of Epidemiology and Population Health in the Department of Population Health at the London School of Hygiene & Tropical Medicine. The appointment will be on the Professional Support Pathway scale in the range of £37,889 to £43,028 per annum inclusive. Annual leave entitlement is 30 working days per year, pro rata for part time staff. In addition to this there are discretionary “Director’s Days”. Membership of the Pension Scheme is available.

Asylum and Immigration

The School will comply with the Immigration, Asylum and Nationality Act 2006, which requires all employees to provide documentary evidence of their legal right to work in this country prior to commencing employment. Candidates will be required to bring their passport (and visa if applicable) to interview so that it can be copied and verified.

This role does not meet the minimum requirements set by UK Visas and Immigration to enable sponsorship of migrant workers. Therefore we cannot progress applications from candidates who require sponsorship to work in the UK

Further information about Certificate of Sponsorship and eligibility to work in the UK, can be found at: www.ukba.homeoffice.gov.uk/employers/points

Applications

Applications should be made on-line via our website at http://jobs.lshtm.ac.uk. Online applications will be accepted by the automated system until 10pm of the closing date. Any queries regarding the application process may be addressed to jobs@lshtm.ac.uk. Applications should also include a curriculum vitae, with a list of publications and grants, and the names of 2 referees that can be contacted immediately if shortlisted. Potential applicants are encouraged to contact Associate Professor Emma Slaymaker Emma.Slaymaker@lshtm.ac.uk or Assistant Professor Keith Tomlin keith.tomlin@lshtm.ac.uk to find out more about the post.

The supporting statement section should set out how your qualifications, experience and training meet each of the selection criteria. Please provide one or more paragraphs addressing each criterion. The supporting statement is an essential part of the selection process and thus a failure to provide this information will mean that the application will not be considered. An answer to any of the criteria such as “Please see attached CV” will not be considered acceptable.

The London School of Hygiene & Tropical Medicine is committed to being an equal opportunities employer.