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| Last updated: | April 2022 |

**JOB DESCRIPTION**

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| Post title: | Professor of Health Data & Technology | | |
| School/Department: | Medicine and ECS | | |
| Faculty: | Medicine 80%; Engineering and physical science (20%) | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 7 |
| \*ERE category: | Balanced portfolio | | |
| Posts responsible to: | Head of School within Faculty of Medicine | | |
| Posts responsible for: | Research Staff and Postgraduate Research Students as appropriate | | |
| Post base: | The post holder will be substantively based within the Faculty of Medicine while holding a nominal posting within the School of Electronics and Computer Science through a similar appointment. | | |

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| Job purpose |
| This appointment is to an interdisciplinary post between the faculties of Medicine (FoM) and Physical Sciences and Engineering (FEPS), to undertake research in the field of digital health which complements and augments the Faculty of Medicine and School of Electronics and Computer Science and broader University's existing interdisciplinary research strengths. The postholder particularly will be a leader in the field of health data research, able to inform and provide research-led education at undergraduate and postgraduate level, and to undertake leadership, management and engagement activities.   * The post is an interdisciplinary post between the faculties of Medicine (FoM) and Physical Sciences and Engineering (FEPS). * To initiate, sustain and lead a national and international programme of research using large-scale health data. * To build strong interdisciplinary collaborations between medical and computer science researchers to create a step change in opportunities for interdisciplinary research underpinning advances in healthcare. * To lead and establish data infrastructure, establish new technologies and governance practices that allow new health data innovations within the University and beyond. * To obtain external funding and publish in this field in international peer-reviewed journals * To take a leadership role in ensuring delivery of teaching to both undergraduate and postgraduate students. * To undertake leadership, management, and engagement activities within the school, Faculty and the interdisciplinary space. * The person appointed to this post will have a unique range of skills that cover the ability to handle and analyse very large health datasets, integrate relevant supporting datasets, support the development of new technologies and clinical outcomes from their work. * An individual with experience in researching, developing and prototyping foundational research in technology applied towards health, from trustworthy AI, ‘Omics technologies and large scale data integration and analysis. Experience in interdisciplinary work that provides insight into health as well fundamental technology research. Experience and track record of published research. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | To develop and sustain a programme of interdisciplinary health data science research.   * Act as lead researcher on projects, responsible for attracting funding by leading related input to grant applications, development of protocols, supervising and leading analyses, writing reports and papers in leading peer-reviewed journals. * Act as principal investigator on projects, responsible for defining original research objectives, developing and managing staff, and attracting funding through bids and reputation. * Lead on successful grant applications to secure funding for new research projects * To build strong interdisciplinary collaborations between medical and computer science researchers to create a step change in opportunities for interdisciplinary research underpinning advances in healthcare. * Work with Faculty academic colleagues and Professional Service colleagues to develop appropriate infrastructure, governance and capacity to store, process and analyse large health-datasets to support governance and protection requirements that can be replicated for other members of the Faculty. * To lead and supervise data requests, data release and analysis of very large health-focused datasets * To liaise and lead research at the regional and national level | 1. % |
|  | Take a leadership role in ensuring delivery of teaching to both undergraduate and postgraduate students.   * To lead colleagues in delivering a programme of learning materials on health data * To contribute to postrgraduate or undergraduate curriculum development and teaching incorporating health data science techniques. | 20 % |
|  | Undertake leadership, management, and engagement activities within the school, Faculty and the interdisciplinary space. Support shared vision and strategy the school through involvement in leadership and efficient management and administration. Provide expert advice and subject leadership to other staff and students, including research supervision. Line manage other researchers within the group.   * Lead and establish data infrastructure, establish new technologies and governance practices that allow new health data innovations within the University and beyond. | 10 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| * Create meaningful relationships between ECS and Faculty of Medicine. * Member of the School/Department Board, Examination Board and other Committees relevant to the role. * Work closely with or communicate with (as required) external groups, such as: * Chief Investigators and wider research teams * Colleagues within the Data Health and Society theme of the Southampton NIHR BRC * Colleagues undertaking related research in the NIHR ARC Wessex * Colleagues developing our supra-regional Secure Data Environment, as well as inner-University efforts to create local trusted health data processing environments for University researchers * Funders, including but not limited to MRC, EPSRC, HDR UK, NIHR, and Cancer Research UK * Maintain collaboration with data providers and commercial organisation relevant to health data science including for example trusted research environments * Maintain close links with internal study teams, working with investigators and multi-disciplinary team members for day-to-day management and oversight of studies. |

| Special Requirements |
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| To attend national and international conferences for the purpose of disseminating research results or other attending meetings.  The role will be based at Highfield campus, University of Southampton, with hybrid work-from-home and office-based working patterns and flexible working available.  Flexible working may be required on occasion. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in epidemiology and/or health data science  Well-established national and international reputation in using large electronic health databases  Experience of managing large data storage and processing systems, including processes for data requests  Knowledge of processes required for the linkage, storage and ethics approvals for large electronic health databases  A sustained record of excellence in teaching and learning activities at undergraduate and postgraduate level | Fellowship of Higher Education Academy  Membership of national or international advisory bodies  Teaching qualification (PCAP or equivalent)  Familiarity with the governance and analysis within trusted research environments (TRE)  Experience in researching, developing and prototyping foundational research in technology applied towards health, from trustworthy AI, Imaging and ‘Omics technologies, medical image advancements, ‘OMICs processing and analysis to lab on a chip.  Experience in interdisciplinary work that provides insight into health as well fundamental technology research.  Experience and track record of published research  Experience in the use of standardised, FAIR data for healthcare research  Familiarity with the regulatory environment for the application of software and tools as medical devices | CV  Application references  Interview |
| Planning and organising | Proven ability to champion and oversee key contributions to faculty and/or University research, education and enterprise strategies  Proven ability to lead research activities and grants of national and international importance  Able to contribute to the development of research and teaching policy within the School/Department  Proven ability to plan, manage, organise and assess own teaching contributions, ensuring plans complement broader education strategy. | Able to build and manage a team  Proven ability in the design of course units, curriculum development and new teaching approaches in the School/Department, taking primary responsibility for their quality | CV  Application references  Interview |
| Problem solving and initiative | Knowledge and understanding of potential challenges and difficulties in big data research studies, including innovative solutions and problem solving skills to manage delays in data release and processing  Able to develop significant new concepts and original ideas leading to novel solutions within own field in response to intractable issues of importance to the research area |  | CV  Application references  Interview |
| Management and teamwork | Able to mentor, manage, motivate, and coordinate teaching/research teams, delegating effectively.  Able to resolve performance issues and formulate staff development plans, where appropriate, to ensure personal or team aims are met  Ability to manage and deliver own course units and team-taught course units  Proven ability to coach, advise and support others (staff and students) on learning and teaching issues.  Able to foster and develop good relationships between own School/Department and the rest of the university. Able to work proactively with senior colleagues to develop cross-School/Department and institution cooperation and effectiveness  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development | Able to monitor and manage resources and budgets | CV  Application references  Interview |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience  Extensive track record of presenting research results at group meetings and conferences  Able to engage counselling skills and pastoral care, where appropriate  Able to persuade and influence at all levels in order to foster and maintain relationships, resolving tensions/difficulties as they arise  Able to provide expert guidance to colleagues in own team, other work areas and institutions to develop understanding and resolve complex problems  Able to develop and lead key communications strategies |  | CV  Application references  Interview |
| Other skills and behaviours | Compliance with relevant Health & Safety and other regulatory issues  Positive attitude to colleagues and students |  | CV  Application references  Interview |
| Special requirements | Able to attend national and international conferences to present research results |  | CV  Application references  Interview |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |