Clinical bioinformatics (physical sciences)

Clinical bioinformatics combines computer science, statistics, mathematics, and engineering to study and process biological data.

Working within the physical sciences of bioinformatics, you'll be furthering knowledge and building the future by designing the equipment, software and algorithms that process clinical and genetic data.

Overview

Bioinformatics in physical sciences is closely allied to computer science as it involves computer programming, network topologies [1], ensuring that standards are met and database design.

You'll work as a clinical scientist, most likely within a medical physics or clinical engineering department or specialty, where your role will primarily involve working with medical equipment.

healthcare-science-four-scientists-working

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Working life

You could be:

- creating computer-related interfaces to control specialist medical equipment
- commissioning (and approving) computer-related interfaces for clinical use
- ensuring that the equipment and computer-related interfaces are continually fit for purpose
- constructing software, either to model biological processes, investigations and treatments or to investigate and manipulate data produced by medical devices.

Want to learn more?

- Find out more about the entry requirements, skills and interests required to enter a career in bioinformatics (physical sciences) [2]
- Find out more about the training you'll receive for a career in bioinformatics (physical sciences) [3]

Pay and conditions

Most jobs in the NHS are covered by the Agenda for Change (AfC) [4] pay scales. This pay system covers all staff except doctors, dentists and the most senior managers. Trainee clinical scientists train at band 6 level, and qualified clinical scientists are generally appointed at band 7. With experience and further qualifications, you could apply for posts up to band 9.

Staff will usually work a standard 37.5 hours per week. They may work a shift pattern. Terms and conditions of service can vary for employers outside the NHS.

Where the role can lead

With further training and/or experience, you may be able to develop your career further and apply for vacancies in areas such as further specialisation, management, research, or teaching.

Healthcare science staff often work at the forefront of research and innovation, so that patients are continually receiving the very best care. In bioinformatics, you could be developing new techniques such as three-dimensional analysis to better understand and quantify the effects of disease and treatment.

Job market and vacancies

In November 2018, there were 6,123 clinical scientists registered with the Health and Care Professions Council [5].

The NHS Scientist Training Programme attracts many more applicants than there are places and so there is considerable competition for places.

Finding and applying for jobs

When you're looking for vacancies, check them carefully to be sure you can meet the requirements of the person specification before applying and to find out what the application process is. You may need to apply online or send a CV for example.

For the NHS Scientist Training Programme (STP) [6] there is an annual recruitment cycle. Applications usually open in early January for the intake in the following autumn.

Applications for the STP [7] and HSST [8] should be made through the National School of Healthcare Science's website [9], where you can also find information about the programme and the recruitment process.

Key sources relevant to vacancies in the health sector:

- Vacancies in organisations delivering NHS healthcare can be found on the NHS Jobs website [10]
- Opportunities in the Civil Service can be found on the Civil Service Jobs website [11]
- Vacancies in local government can be found on the Local Government Jobs website and the Jobs Go Public website [12].

As well as these sources, you may find suitable vacancies in the health sector by contacting local employers directly.

Find out more about applications and interviews [13].

Volunteering is an excellent way of gaining experience (especially if you don't have enough for a specific paid job you're interested in) and also seeing whether you're suited to a particular type of work. It's also a great way to boost your confidence and you can give something back to the community.

Find out more about volunteering and gaining experience [14].

- ## Further information

    - Academy for Healthcare Science (AHCS) [15]
    - Health and Care Professions Council [16]
    - Institution of Physics and Engineering in Medicine [17]
    - National School of Healthcare Science [9]

Other roles that may interest you

- Clinical bioinformatics (health informatics) [18]
- Knowledge and library services [19]
- Experienced paramedic [20]
- Emergency care assistant [21]

Source URL: https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/clinical-bioinformatics/clinical-bioinformatics-physical-sciences

Links
[1] https://www.healthcareers.nhs.uk/glossary#Topologies [2] https://www.healthcareers.nhs.uk/explore-roles/informatics/bioinformatics-physical-sciences/entry-requirements-skills-and-interests [3]

https://www.healthcareers.nhs.uk/explore-roles/informatics/bioinformatics-physical-sciences/training-development-and-registration [4] https://www.healthcareers.nhs.uk/about/careers-nhs/nhs-pay-and-benefits/agenda-change-pay-rates [5] http://www.hcpc-uk.org [6] https://www.healthcareers.nhs.uk/i-am/considering-or-university/not-studying-health-related-degree/nhs-scientist-training-programme [7] https://www.healthcareers.nhs.uk/glossary#STP [8] https://www.healthcareers.nhs.uk/glossary#HSST [9] http://www.nshcs.hee.nhs.uk/ [10] http://www.jobs.nhs.uk [11] https://www.civilservicejobs.service.gov.uk/csr/index.cgi [12] http://www.jobsgopublic.com/ [13] https://www.healthcareers.nhs.uk/career-planning/planning-your-career/applications-and-interviews [14] https://www.healthcareers.nhs.uk/i-am/secondary-school-or-fe-college/gaining-experience [15] http://www.ahcs.ac.uk [16] http://www.hcpc-uk.org/ [17] http://www.ipem.ac.uk [18] https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/clinical-bioinformatics/clinical-bioinformatics-health-informatics [19] https://www.healthcareers.nhs.uk/explore-roles/health-informatics/roles-health-informatics/knowledge-and-library-services [20] https://www.healthcareers.nhs.uk/explore-roles/ambulance-service-team/roles-ambulance-service/experienced-paramedic [21] https://www.healthcareers.nhs.uk/explore-roles/ambulance-service-team/roles-ambulance-service/emergency-care-assistant