

Design drugs for the 21st century - train for a career in the newly emerging industries of the post-genomic era in this truly multidisciplinary degree. With recent completion of the Human Genome Project, the pharmaceutical industry is preparing for a revolution in cancer and inherited disorder therapies. This programme is training a new generation of bioscientists to meet these challenges.

Vinod Kumar Narayana

I came to Salford from India to study Analytical Bioscience and Drug Design. I learnt a lot at the University which I can't forget throughout my life - the education is really good, with friendly, knowledgeable and very helpful tutors. I made very good relationships with all the staff and made very good friends.

All the modules are very interesting and you will learn a wide range of new techniques. I am now working at the Medical Research Council undertaking human nutrition research in Cambridge. We are developing biomarkers in nutrition related diseases under the Cambridge Lipidomics Biomarker Research Initiative.



Full details of module content are given on the School website. The key modules are:

- **Separation Science** Theory coupled with practical experience of principles and applications for separation and characterisation of biomolecules and pharmaceuticals, principles of chromatographic and electrophoretic separations, and quality assurance issues.
- **Spectroscopy & Spectrometry** looks at molecular characterisation, the principles of spectroscopic analysis using ultraviolet/visible spectroscopy, NMR spectroscopy and infrared spectroscopy.
- **Structural Bioinformatics, Proteomics & Microarrays** examines aspects of proteomics and microarray technology and the principles of bioinformatics, providing the chance to demonstrate the appropriateness of bioinformatic solutions in analysing common problems in pharmaceutical and biotechnology fields.
- **Drug Discovery Design & Development** Explanation and discussion of the principles of rational drug design, and relation of these techniques to problem solving in emerging drug design, discovery and development methods and applications.
- **Advanced Mass Spectrometry** includes a wide range of ionisation techniques, and the application of mass spectrometric techniques to the analysis of large biomolecules, such as proteins and peptides, oligonucleotides, oligosaccharides and lipids.

- **Identification of Important Natural Products** looks at bioactive natural products as pharmaceuticals, toxins and lead compounds, the isolation of bioactive materials from nature, and the characterisation of newly-discovered natural products.
- **Anticancer Drugs & Chemotherapy** Learn about anticancer agents and chemotherapy, the mode of action of anticancer agents and drugs interacting with DNA.
- **Advanced Drug Synthesis** - synthetic aspects of drug design, modern methods for drug synthesis, and the application of retrosynthetic analysis and drug synthesis in the design of drugs in the 21st century.

Certain modules may also include industrial site visits.

Career Opportunities

Although particularly relevant to those looking for a career in the pharmaceutical and biotechnology industries, this programme will also equip students for a career in many other professions in which biology and chemistry are important components. These include cosmetic science, animal health, food science, medical laboratory research, patent law, scientific journalism, and health & safety.

Staff are actively engaged in international research programmes and bring their experience, expertise and enthusiasm to this degree programme.

Fees See page 27.

Duration One year full-time, 2-3 years part-time (part-time fee payable for two years only).

Entry requirements Applicants should possess at least a UK lower second class honours degree (2.2) or equivalent in biochemistry, microbiology, chemistry, pharmacy, medicine, or a related subject.