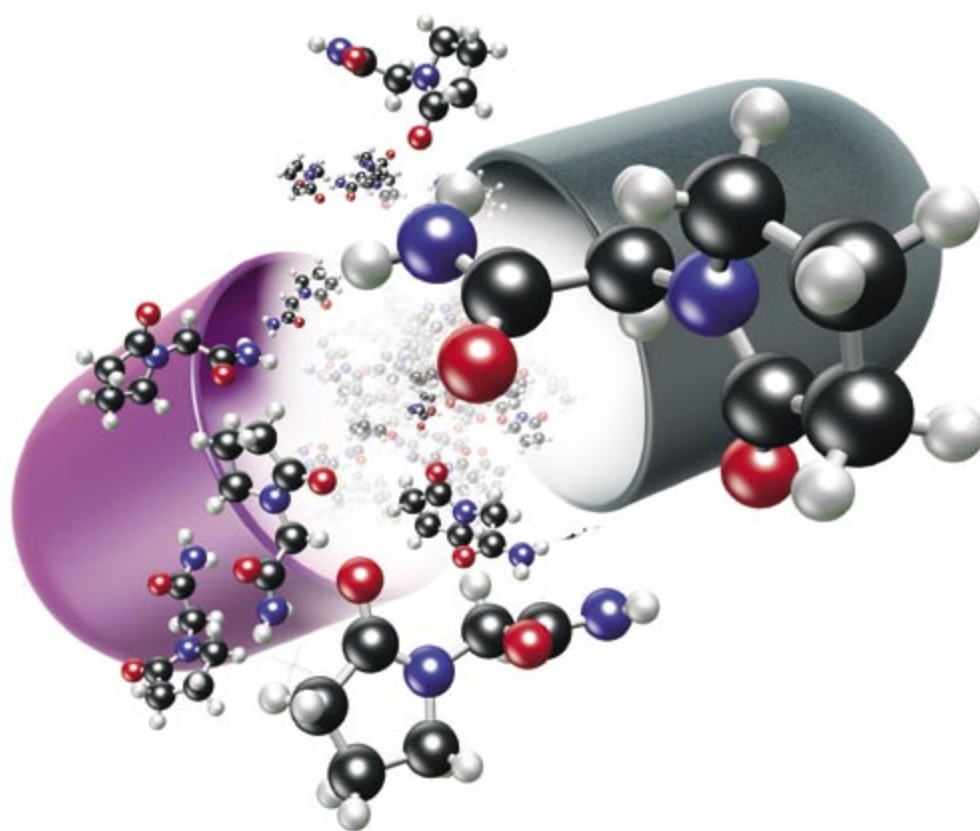


ipii

Institute of
Pharmaceutical
Innovation

Formulation and Analysis



*The expertise of a leading Institute...
... the delivery of a professional service organisation*



Pharmaceutical
Innovation
Centre of Industrial
Collaboration

Formulation expertise and analytical services

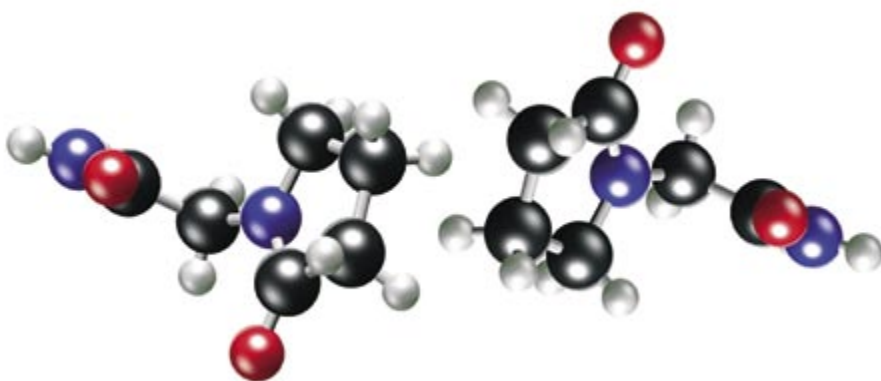
Based at the University of Bradford, the IPI is an accredited Centre of Industrial Collaboration with a mandate to deliver solutions in drug development.

Our focus is to provide formulation development and analytical services from drug discovery support through to prototype clinical and commercial formulation development.

Our contract research team offers expertise in pharmaceuticals underpinned by many years of combined experience in the commercial sector including Pharma, Biotech and Spin-outs.

Our services include...

- Designing new formulations and drug delivery systems across a range of dosage forms
- Developing analytical methods and testing the performance of raw materials and pharmaceutical products
- Profiling the properties of drugs and excipients to enhance product performance



Formulation and drug delivery system design

Expertise in a range of dosage forms

- Capsules & Tablets
- Inhaled
- Orodispersables
- Parenterals
- Topicals & Ophthalmics

Technology for challenging molecules

- Complexation
- Lipidics
- Polymeric
- Solid dispersions

Analytical method development and testing

Characterisation of API and product

- Dissolution
- Distribution mapping
- Impurity analysis
- Stability
- Elemental analysis

Assay development

- Active agent
- Bio-analysis
- In-vitro models
- Related substance
- Solution science

Profiling the properties of drugs and excipients

Physico-chemical profiling of API

- Bio-stability
- Compaction studies
- Compatability testing
- Solubility screening

Solid State Pharmaceutics

- Crystallinity
- Hygroscopicity
- Polymorphism
- Salt formation
- Thermal analysis

Analytical Resources

Raman Spectroscopy / Microscopy - Bruker IFS-66, Renishaw InVia

IR Spectroscopy / Microscopy - Digilab UMA400

UV-vis - Carl Zeiss MCS 522 uv/vis, Varian Cary Scan 50

UV fluorescence - Ocean Optics S2000 + RLS450

LC-MS - Micromass Quattro Ultima, Micromass ZMD

ICP-MS - Thermo PlasmaQuad 4

TGA - Thermal Analysis Q5000 IR

DSC - Thermal Analysis Q2000

NMR - Jeol ECA 600 - Jeol GX270

EPR - Jeol RE-3X

Single Crystal Diffraction - Bruker X8-Apex, Stoe STADI-4

Powder X-Ray Diffraction - Stoe STADI-P, Bruker D8, Siemens D5000

Tablet optimisation for Galpharm International

Galpharm is the leading private label medicine supplier in the UK.

In order to improve the robustness of one of their products, Galpharm called upon our formulation expertise.

Within a month, we formulated a stronger tablet with improved manufacturability leading to improved profit margins.



Portfolio evaluation and formulation for Daniolabs

Daniolabs is a Cambridge based biotech company developing neurological and ophthalmological therapies.

Daniolabs engaged us to review their portfolio and to formulate their poorly-soluble compounds from their lead series into aqueous preparations for pre-clinical studies.

Within a month we developed a range of novel ophthalmic formulations to present to the customer.



Drug delivery device for Alliance Pharmaceuticals

Alliance is a speciality pharmaceutical company which markets and distributes niche prescription products.

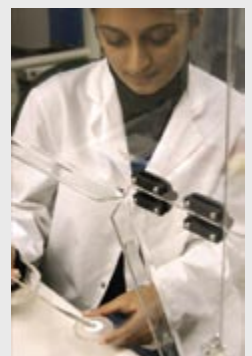
In order to differentiate a new product, Alliance required a drug delivery device to be designed.

Within six months we developed a device which entered production.



Other projects include:

Development of novel inhalation systems, compaction studies of direct compression tablets, skin penetration studies using raman, polymorph screening, species identification, dissolution studies, solid state analysis of products and crystal engineering of cancer drugs.



**The expertise of a leading Institute...
... the delivery of a professional service organisation**

- Access to the latest advances in drug delivery technology
- Pre-clinical to commercial formulation development support
- Over £6m of analytical and formulation equipment on-site

Engage the IPI and benefit from our...

- Multidisciplinary team approach
- Dedicated contract research team
- Flexible mechanisms of engagement
- Ingenuity and tenacity in solving problems
- Understanding of the regulatory environment

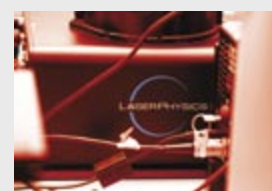
A track record of successful projects...

- A portfolio of over 100 projects completed for Biotech and Pharma clients over the last 2 years

For more information please contact:

Piers Lincoln - Commercial Manager
IPI Centre of Industrial Collaboration
University of Bradford, Bradford,
BD7 1DP, United Kingdom

Mob: +44 (0)7779 669462
Tel: +44 (0)1274 236193
Email: p.lincoln@bradford.ac.uk





**Institute of Pharmaceutical Innovation
University of Bradford
Bradford
BD7 1DP
UK**

**Tel: +44 (0)1274 236160
Fax: +44 (0)1274 236155**

www.ipi.ac.uk



This programme is supported by Yorkshire Forward, the Regional Development Agency and the European Regional Development Fund