

# Case Study

## Knowledge Transfer Partnerships: BioInteractions Limited

### Key Facts

- BioInteractions Ltd is a research and development company specialising in biomaterial technologies for the worldwide medical device industry.
- Knowledge Transfer Partnerships is a government scheme to encourage the transfer of expertise between Higher Educational Institutes and research organisations, businesses, charities and other organisations.
- BioInteractions were seeking to design and develop novel biocompatible biodegradable biomaterials for medical devices such as drug eluting stents.
- Dr John McKendrick, Lecturer in Organic Chemistry at the University of Reading, acted as the academic supervisor on the KTP.
- The KTP utilised the expertise and skills of the Associate and the academic, the facilities of the University and culminated in the filing and registration of 3 patents.
- The original KTP has led to a further partnership between BioInteractions and the University of Reading.

### The Partner

BioInteractions Ltd is a research and development company specialising in biomaterial technologies for the worldwide medical device industry. Based in purpose built laboratories in the Science and Technology Centre at the University of Reading, the company develops advanced and specialised coatings for devices used in medical treatments and procedures such as instruments and implants. With their biocompatible technology BioInteractions aims to improve the well-being of patients and increase recovery times thereby also providing benefits for clinicians and health services.

BioInteractions have secured licensing contracts with major medical device manufacturers around the world and in 2002 won the Queen's Award for Enterprise for a biocompatible coating that was the first to combine multiple elements for total biocompatibility in just one coating.

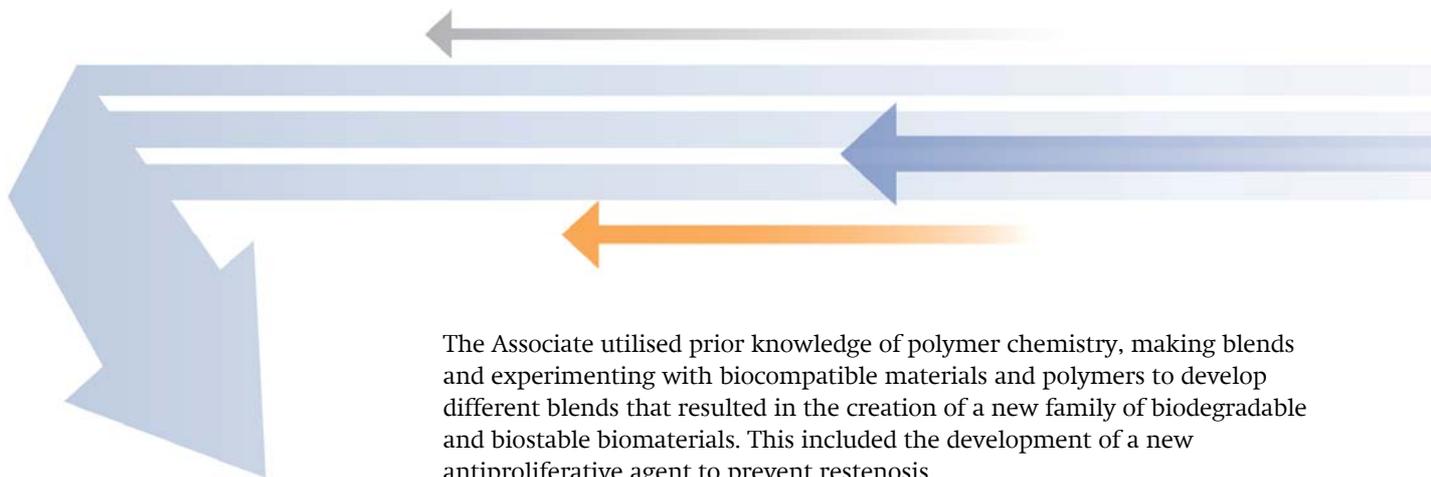
### The Challenge

BioInteractions develop novel biocompatible biodegradable biomaterials for medical devices such as drug eluting stents. A drug eluting stent is a coronary stent - like scaffolding - which is placed in a narrowed or diseased artery to keep the artery open. The stent slowly releases a drug that blocks cell replacement preventing cell regrowth, the stent imbedding itself and reblocking the artery, a process called restenosis.

BioInteractions were seeking to develop a chemical material which was biocompatible and could be applied to coatings of medical devices - like drug eluting stents - that the human body would not reject or respond to.

### Solution

Knowledge Transfer Partnerships is a government scheme to encourage the transfer of expertise between Higher Educational Institutions and research organisations and businesses, charities and other organisations through employing an Associate to work on a strategic business challenge under the guidance of University experts. KTP is funded by the Technology Strategy Board along with other government funding organisations.



The Associate utilised prior knowledge of polymer chemistry, making blends and experimenting with biocompatible materials and polymers to develop different blends that resulted in the creation of a new family of biodegradable and biostable biomaterials. This included the development of a new antiproliferative agent to prevent restenosis.

## Benefits to the Partner

The terms of the KTP allow BioInteractions to retain Intellectual Property (IP) created during the partnership. Three patents have been filed and registered in the US and Europe, leading to licensing opportunities for the company, which, as well as generating income, will expand its operations in the area of biomaterials.

In addition the project has expanded BioInteractions' knowledge and expertise in organic chemistry as well as its application in biomaterials for medical devices.

## Benefits to the University

The University will gain research income from profits made by BioInteractions when the product is licensed.

The University, together with BioInteractions, the Associate and the Academic, have been instrumental in creating a biomaterial that may benefit patients.

BioInteractions and the University have a licensing agreement whereby Dr John McKendrick can use the materials generated from the KTP in his research, as well as publish findings from the research once the patents are granted.

## Benefits to the Associate

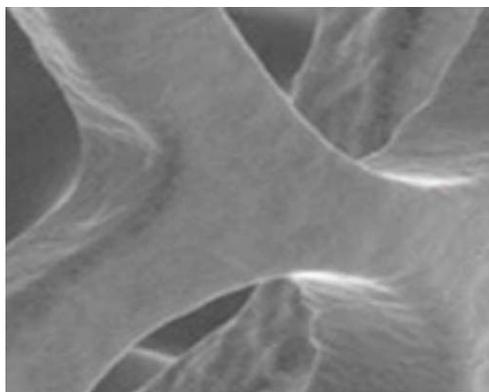
As a result of the success of the KTP project the Associate was employed by the company as a Research Scientist, and is now (October 2009) acting as the Industrial Supervisor on a second KTP for BioInteractions.

Through the novel material created in the course of the KTP and the support from the University and BioInteractions the Associate was able to gain his PhD qualification.

### University of Reading

The University of Reading is a world-class research-intensive university covering a broad spectrum of disciplines across the Life and Physical Sciences, Arts and Humanities, Social Sciences and Henley Business School. Areas of particular strength include: Climate Systems Science, Preventative and Therapeutic Health Sciences, Sustainable Construction and Environments and Computational Science and Informatics.

The University works with businesses providing support for research and development, as well as access to expertise and equipment to solve business challenges. To find out how you can access the leading minds at the University of Reading please contact our Knowledge Transfer Centre.



'The KTP has enabled us to develop new and innovative technologies, which have enhanced our product portfolio and increased the potential for new licensing opportunities.'

Dr Ajay Luthra

Managing Director,  
BioInteractions Ltd

[www.biointeractions.com](http://www.biointeractions.com)