

## News

The following news items illustrate some of our activities during the last 7 months. To keep up to date with our activities, please take a look at our news pages

at: <http://www.reading.ac.uk/foodbiosciences/about/foodbio-news.asp>

### 18 December 2008: International excellence of Food Biosciences research recognised by national assessment exercise

The Department has been recognised as providing high quality research across a broad spectrum of food bioscience disciplines. The results of the Research Assessment Exercise (RAE) published today support our claim to be an international centre of excellence for food biosciences.

Overall, the quality of 90% of our research activity was considered to be internationally recognised with 15% of this being assessed as "world-leading" and a further 40% being classed as "internationally excellent". Our Grade Point Average score is 2.60, one of the highest in the UK within the sector.

Our Department is the largest centre for food science related research and teaching within the UK university sector. For the RAE, all our full time academic staff members (representing 22.1 full-time equivalents) and a further 9 post-doctoral research fellows were included in our submission. We believe that it was important to have all of our staff assessed to demonstrate the depth and breadth of our research strength.

Professor Bob Rastall, Head of the Department of Food Biosciences,

said: "I am exceptionally pleased with the result, which is a tribute to the talent and hard work of all the staff. The aim of the Department is to deliver top international research and postgraduate training in the food biosciences through exploitation of modern advanced technologies and inter-disciplinary expertise. The results of the RAE show that we are meeting this aim."

The breadth of our Department's research into food biosciences is unequalled in the UK, and makes us one of the top International centres. With expertise ranging from gut microbiology, novel carbohydrates, nutritional genomics, diet and chronic disease, heat processing technology, sensory science, food regulation and flavour chemistry we are a leading player in the University's 'Food Chain and Health' research theme.

### 18 December 2008: BBC appearance for sensory scientist who explains why some people hate Brussels Sprouts

Brussels sprouts are the traditional vegetable to have with the main Christmas dinner. But it is well known that some people do not like their taste. BBC television set out to try and see if there was a scientific reason for this. Their regular 'magazine' programme, 'The One Show', sent a reporter to interview our new sensory scientist Dr Lisa Methven to help explain the background to their taste.

Lisa explained that it was a combination of the number of taste buds on an individual's tongue and the heightened perception of bitter taste that some people have - the so-called 'supertasters' - due to their



genetic make-up.

The bitter taste associated with certain green vegetables, including Brussels sprouts, originates from a group of compounds known as glucosinolates. The bitter taste specific to some glucosinolate derived compounds is perceived by one specific bitter taste receptor, and it is that receptor that varies between individuals. 'Supertasters' with a high number of tastebuds, and with the sensitive bitter receptor, will perceive a much higher bitter "hit" from Brussel sprouts, which may affect whether they like them .

Lisa works alongside Phiala Mehring from MMR Research Worldwide in running the Sensory Science Centre at Reading. The centre carries out sensory science for both research and commercial projects. Research into the compounds responsible for the taste and flavour of foods is carried out by the Flavour Centre at Reading, run by Dr Jane Parker.

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## 8 December 2008 - Research team wins BBSRC best young entrepreneur title

**A team of bioscientists from the University have today been rewarded for their exceptional entrepreneurial skills as they were crowned winners of a national competition run by the Biotechnology and Biological Sciences Research Council (BBSRC) and the University of Nottingham Institute for Enterprise and Innovation (UNIEI).**

The team scooped top prize in the annual Biotechnology Young Entrepreneurs Scheme (YES) by impressing a panel of judges with their proposal for a hypothetical company called Ovega and its revolutionary new product which aims to produce vegetarian Omega-3 oil from food industry waste. One member of the team, Dr Abby Thompson, was from Food Biosciences and acted as the 'Operations Director' of the company. The remaining team

members were Biological Sciences and Pharmacy. The team was mentored by Dr Samantha Decombel from the University's Technology Transfer Office.

The University team was one of 14 teams that made it through to the final from a total of 73 teams of bioscientists that took part in regional heats. Their fictional product, also named Ovega, was pitched against some excellent business ideas, such as a gel that indicates the presence of skin cancer cells; a food additive that fools you into feeling full and lowers cholesterol; a hair removal cream that prevents hair re-growth for three months; and a kit for allergy sufferers to detect traces of peanuts in their food.

The winners walked away with the Biotechnology YES 2008 title, £1000 prize money, sponsored places at the Bioindustry Association dinner and the opportunity to give their presentation at a premier regional US Business Plan Competition.

Minister of State for Science and Innovation, Lord Drayson, said: "I would like to extend my warmest congratulations to Ovega. This scheme is producing a generation of commercially-aware scientists who will be crucial to the UK economy by

generating new businesses, jobs and wealth for the UK. In addition to scientific talent, the development of entrepreneurial skills and ability to understand the commercialisation of research are key tools for young researchers today - whether they stay in academia or move into business."

Dr Peter Ringrose, Chair of BBSRC and head of the final judging panel said: "The standard of competition this year was particularly high and in addition to the excellent entrepreneurial skills demonstrated we also heard about some incredibly innovative product ideas. We would like to congratulate the winning team and also commend all the finalists for their achievements throughout the competition.

"We are delighted that these talented scientists are preparing themselves early in their careers to translate their research into benefits for the UK economy and society - an activity for which their grasp of the principles of finance, marketing and intellectual property will be absolutely vital. The UK's bioscience sector is truly world class and we must continue to encourage our early-career scientists to turn excellent science into significant impacts."



Abby Thompson said: "We have learnt so much through this experience and are very grateful for the opportunity to develop the skills we would need to bring a real product to market one day. To win the competition is a huge bonus on top of an amazing journey; we have definitely benefited individually but we have also grown as a team and are looking forward very much to working together in the future."

Biotechnology YES is an annual competition, now in its 13th year, that aims to help the UK's early career bioscientists gain the skills and contacts needed to turn research into commercial reality. Year on year the competition grows in popularity and the 2008 competition was 10% bigger than 2007, with around 330 entrants. Through regional heats across the UK, young scientists competed for places in the final, mentored by a team of advisors including financiers, intellectual property experts and spin-out company heads.

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## 6 December 2008: Department reluctantly decides to withdraw the BSc Biotechnology programme

**After several years of low recruitment, the Faculty and the University have agreed to the proposal from the Department that we no longer admit students onto our BSc Biotechnology programme.**

The degree programme was first run over 30 years ago before the term 'biotechnology' had become so familiar. The course was developed by our staff who considered that the department's expertise in food technology could be well used in other areas where technology could be applied to biological material – hence the name 'biotechnology' was chosen. The course has always therefore had a strong processing element which we considered made it unique and which would provide graduates capable of developing

good careers in industry processing biological materials.

The increasing importance of genetic engineering and the use of the term 'biotechnology' for the applied aspects of genetic manipulation provided us with a challenge. Our course has been modified over the years so as to provide our students with increased exposure to these developments whilst maintaining the core elements linked to our processing expertise.

Unfortunately our BSc Biotechnology 'niche' product was not sufficiently attractive to potential students and numbers have remained stubbornly low despite our efforts to promote the programme.

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## 12 November 2008: University films feature top Food Biosciences researchers

**As one of the leading research departments at the University of Reading, the Department of Food Biosciences has been involved in the preparation of some promotional films highlighting our research.**

Three short films have just been published and can be viewed direct from the University web pages:

### Food for Thought:

Starring Dr Jeremy Spencer from our Department and Dr Claire Williams from the School of Psychology and Clinical Language Sciences, this film describes their work linking diet to brain function

### Diet and Genes:

Dr Anne Marie Minihane describes how work in the Department is helping scientists understand the links between an individual's genes and their susceptibility to diseases.

### Probiotics:

The third film features Professor Glenn Gibson who describes his work on probiotics and the key role

that the Department played in the development and understanding of prebiotics.

The three films can be accessed from our web pages. See: Research in Food Biosciences - Films

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## 20 October 2008: Winning formula developed by PhD researcher selected for its business potential

**Budding entrepreneurs from the CommercialISE Fellows Training Programme presented their business plans on Monday 20 October 2008 at The Business Centre, Reading, in an event celebrating three cohorts of business training under the CommercialISE banner.**

Fellows took part in a competition to present their Business Plan to a panel made up of regional judges from the universities participating in the programme, with three finalists going forward to a Main Panel judged by Prof. Russell Smith of Business Boffins, Dr Tom Harris of Hi Consulting and Sue Stockdale of Mission Possible.

The overall winner was Trevor George of the Department of Food Biosciences who has been doing research leading to a PhD under the supervision of Dr Julie Lovegrove. Trevor impressed the judges with his innovative range of "Phyt" food products which combine the convenience of snack foods to purchase and consume on-the-go with the health benefits of real fruits and vegetables. The two runners up were from Buckinghamshire New University and the University of Sussex.



CommercialISE is a programme aiming to support the Government's drive to build closer ties between business and higher education institutions in the South East. It is a collaborative partnership between eleven universities; Brighton, Bucks New, Chichester, Cranfield, Greenwich, Kent, Kingston, Oxford Brookes, Portsmouth, Reading and Sussex.

In the photograph above, Trevor is in the middle of the back row!

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## 6 October 2008: Department welcomes record numbers of new students

**Student numbers have increased again this year with both our undergraduate and master's programmes attracting record numbers to join the Department.**

Our relatively new BSc Nutrition and Food Science has proved increasingly popular and this year we have welcomed 26 new students onto this programme out of our total undergraduate intake of 58. Our BSc Food Science with Business programme has also shown an increase this year reversing a declining trend over the last few years. Our link with Henan University in China continues to provide us with additional students onto our BSc programmes although they enter into the second year of the BSc degrees.

Our Masters programmes have again this year been very popular and we have welcomed 67 new students. The MSc Food Technology Quality Assurance attracts the largest number and we have admitted 33 students to take this one year programme. A significant increase has also occurred for our MSc Food Science which, having been less popular, has this year bounced back with 17 students. The remaining 20 have joined our MSc Nutrition and Food Science programme.

Our MSc intake is a diverse international grouping with

students this year coming from 20 different countries: Barbados, Canada, China, Colombia, Cyprus, Egypt, Ghana, Greece, India, Indonesia, Iran, Malaysia, Mauritius, Nigeria, Poland, Saudi Arabia, Taiwan, Thailand, Turkey and the United Kingdom. As part of our link with Henan University in China, this year sees the first intake onto the MSc programmes of students who have completed their BSc at Henan University.

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## 8 September 2008: Department joins leading market research group to create new Sensory Science Centre

**The University of Reading and the independent market research group MMR Research Worldwide Ltd, are pleased to announce the launch of the Sensory Science Centre in the Department of Food Biosciences.**

Based in the recently upgraded sensory facility in the Department, the collaboration is already providing high quality sensory evaluation data for MMR's blue-chip food, drink and healthcare clients and the University's research and teaching programmes.

The Centre uses a panel of professional sensory assessors, all recruited from the local community, who have been trained to evaluate the taste qualities of a wide range of products, and it is fitted with the latest computerised data capture software. Sensory evaluation is an essential tool for optimising consumer acceptance of food products. It is also vital in gaining understanding of how we perceive flavour, taste and texture in food. The panel is managed directly by MMR's Sensory Manager, Phiala Mehring, working in close collaboration with Dr Lisa Methven, lecturer in Sensory Science at the University.

Professor Don Mottram from the Department heralded the joint-venture as a "major boost to the

teaching of sensory science at Reading, and a fantastic research resource". He added, "our relationship with MMR brings about the fusion of science and commerce, creating a unique sensory resource."

MMR Chairman, Professor David Thomson said "we've been collaborating with the University of Reading for many years. When we decided to bring MMR's sensory evaluation in-house, Food Biosciences was the obvious choice for the facility, which we have been developing since January. I'm delighted with the outcome and look forward to a fruitful business relationship with the University."

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## 7 August 2008: Department welcomes new group of students from China

**Our link scheme with Henan University in China continues to flourish. Today we have welcomed students who will be joining our courses in October. They have arrived at Reading now so as to complete their English language training.**

The link with Henan goes back several years and in July we saw the first group successfully graduate from our BSc programmes. The new group includes 14 students who have completed 2 years at Henan and they will now join the second year of our BSc programmes. In addition there are 6 students who have completed their BSc degrees at Henan in China who have now come to Reading to do one of our MSc programmes.

External assessors have praised the work the Department has done in helping these Chinese students



integrate into the programmes. This has included the appointment of a Chinese speaking International Student Tutor who has helped the students over the last two years. Although she has now left, a new Tutor (also Chinese speaking) has been appointed and will join us in September in time for the new term.

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#### 4 July 2008: Teaching support takes lecturer on visits to Chile and Spain

This summer Dr Paula Jauregi was invited to visit the School of Biochemical Engineering at the Catholic University of Valparaíso, in Valparaíso, Chile. She was asked to be a speaker in the VIII Latin-American Course in Biotechnology held at the University from the 1st to the 6th June 2008.

The course is organized every four years and this year the areas covered in the course included: Engineering of Cell Culture, Biocatalysis, Bioseparations, Environmental Biotechnology, and Monitoring and Control of Bioprocess. Participants were postgraduate students and professionals working in the biotechnology or bioprocessing industry from all Latin-America.

Dr Jauregi gave two lectures in the area of bioseparations on 'Mechanism of separation of proteins using colloidal gas aphrons' and 'Recovery of astaxanthin from a cell suspensions of *Phaffia rhodozome* using colloidal gas aphrons'.

More recently she also spent a week (30th June - 4th July) as a visiting lecturer in CEU, University San Pablo of Madrid, Spain, within the framework of the CEU University Mobility Programme. On this occasion she ran a case study on production of monoclonal antibodies (therapeutic proteins) with a number of final year pharmacy students and teachers. The students worked in groups and they had to outline the biotechnological process including,

production of the monoclonal antibodies by various organisms, purification, formulation and regulatory issues. The case study was very successful both among the students and teachers as they welcomed the idea of using more interactive and innovative teaching methods.

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#### Our Degree Programmes

The Department of Food and Nutritional sciences offers the following programmes:

- BSc Food Science;
- BSc Nutrition and Food Science;
- BSc Food Technology;
- BSc Food Science with Business
  
- MSc Food Science;
- MSc Food Technology Quality Assurance;
- MSc Nutrition and Food Science
  
- PhD, MPhil - Research degrees

For full details, visit our web site at:  
<http://www.reading.ac.uk/foodbiosciences/>