

## **Warwick HRI**

### **Profile of the Department**

Warwick HRI was formed on 1 April 2004 following the integration of Horticulture Research International's (HRI) sites at Wellesbourne and Kirton with The University of Warwick. Now a department of The University of Warwick, Warwick HRI is the principal UK organisation focussing on Plant and Environmental Sciences. The Kirton Research Centre subsequently closed on 28 February 2009.

We are recognised and renowned for the excellence of our science, undertaken by multidisciplinary teams of world-class scientists. Basic and strategic research underpins all of Warwick HRI's applied research, ensuring the practical results used by growers and industry are based on secure foundations.

The results of the 2008 RAE, a UK University wide exercise carried out by the government to assess research quality and activity in higher education institutions, show that Warwick HRI was the top ranked University group for research quality in the Agriculture, Food and Veterinary area. 60% of the research was assessed as world-leading or internationally excellent.

The Department's annual turnover is approximately £15M. Funding is mainly from research councils, government, industry and EU sources. There are many links to stakeholders including industry, growers, government departments and academic institutions. The Department has links to a number of University departments including Biological Sciences, Chemistry, Warwick Manufacturing Group, Mathematics, Statistics and the Medical School.

Our site at Wellesbourne in Warwickshire spans 191 hectares and contains protected crop facilities, state of the art computer controlled glasshouses, Genetic Resources and BioConversion units, modern laboratories (including the recently developed Genomics Resource Centre) and a conference centre.

We have approximately 225 members of staff. All staff members have access to the University of Warwick's extensive facilities, including the sports centre and library. The Wellesbourne site also has its own gym, common room serving refreshments and lunch, numerous sports and social clubs, and on-site housing for a small number of key staff members and visitors, while the University campus is also home to the Warwick Arts Centre.

Our Wellesbourne site is ideally situated just 5 miles from the historic town of Stratford-upon-Avon, and only 3 miles from the A46 and M40.

For further information visit [www.warwickhri.ac.uk](http://www.warwickhri.ac.uk)

### **Laboratory Facilities in Warwick HRI**

The Department has extensive laboratories covering all aspects of research within the field of functional genomics, organism-based crop science and environmental microbiology and to support the drive into systems-based biological approaches. Complementary facilities e.g. for proteomics, metabolomics, scientific computing and analytical chemistry are available through other departments. Within the Department, there are specialised facilities associated with the distinct research strengths of the Department, details of which are given below.

#### **Genomics Resource Centre**

This £2.5M facility, opened in 2003, aims to underpin the development of sustainable horticulture for the UK, by facilitating the study and exploitation of biodiversity within key crops. The Centre has the following facilities:

A genomics laboratory equipped with automated and robotic equipment for high throughput preparation and analyses, including sequencing, genotyping, SNP analyses and micro / macro – arraying.

Freezer archive for secure storage and documentation of molecular genetic resources e.g. gene libraries and biological samples e.g. pathogen collections.

Seed store and archive (-20 C) for secure storage and documentation of plant genetic resources, e.g. mapping populations developed through experimental and breeding programmes.

### **Genetic Resource Unit**

The Unit is home to the Vegetable Gene Bank, containing a seed store of almost 14,000 accessions of allium, brassica and umbellifers. The Unit has a remit for the collection, conservation, characterization, documentation and research study of a range of vegetable crops and their wild relatives. The core strategic work of the GRU is supported by the Department for Environment, Food & Rural Affairs (DEFRA). The Unit is also active in international crop working groups and networks, and has close informal links with the Centre for Genetic Resources in the Netherlands (CGN).

### **BioConversion Unit**

As the world's resources become scarce attention is being paid to sustainable source of energy and chemicals. The BioConversion Unit is a specialised facility for research into the conversion of agricultural wastes into valuable products; for example the conversion of plant wastes into (i) high-value chemicals, (ii) biofuel, (iii) mushroom compost for commercial mushroom production, and (iv) suppressive composts to control plant diseases. The BioConversion Unit contains a number of solid state fermentation vessels from one to 100 and 300 litre capacities and also near commercial scale of up to 7 tonnes.

### **Field and Glass Facilities**

Wellesbourne has approximately 5000m<sup>2</sup> glasshouse space, including containment and quarantine glass and industry – standard environmentally controlled units. Facilities and trained staff for field and glasshouse experiments are available at Wellesbourne.

### **Computing Facilities and Support**

The Department has a full-time IT Support Manager with a team of support staff who manage our extensive computer systems.

High-performance scientific computing within the University is coordinated through the Centre for Scientific Computing who manage a Linux cluster with 62 Pentium4 Xeon 2.6 GHz processors and 62 GB of memory; an IBM Myrinet cluster of 128 1.4 GHz Pentium 3 processors, 8 visualization nodes, and 128 GB of memory; and a second Myrinet cluster with 96 866 MHz Pentium 3 processors and 32 GB of memory. SRIF Funds have been allocated recently to acquire a further high-power shared-memory computer system and other high-performance IT facilities.

### **Staff Profile**

There are currently 50 academic/science staff in the Department, 69 postdoctoral staff and 41 technical support and research assistant staff. There are also 65 technical, estates and administrative support staff.

### **Postgraduate teaching**

Warwick HRI is a research department offering MSc and PhD research degrees in Plant and Environmental Sciences. The Department is also running a BSc in Environmental Biology. Currently there are 50 postgraduate students in the Department.

More information on research interests, publications and other outputs, and research grants, are available via the Department's web site (<http://www.warwickhri.ac.uk>) which also links to individual web sites for research areas.

## **The University of Warwick**

The University of Warwick is arguably the most successful of UK universities founded within the past half-century, and has earned an outstanding reputation both for research and teaching. Warwick is comfortably ranked within the top ten of all UK university league tables. The latest national UK newspaper tables (Times, Guardian, Independent, December 2008) all ranked Warwick in 7<sup>th</sup> place overall for research based on its performance in the Research Assessment Exercise.

Founded in 1965 Warwick has been a unique and uniquely successful British university combining a “can-do” entrepreneurial spirit with a commitment to absolute academic excellence. Professor Nigel Thrift, Warwick’s 5<sup>th</sup> Vice-Chancellor, was appointed in 2006 to transform the University from a leading university within the UK to become one of the world’s top 50 universities by 2015. A new university strategy was launched as a result of extensive consultation with staff, students and Warwick’s many external stakeholders, and is making good progress.

Warwick employs over 5,000 members of staff, of whom 2,400 are academic and research staff spread across 28 academic departments and 30 research centres; The University's most recent QAA Institutional Audit in November 2008 resulted in findings of "confidence" in our management of academic standards and the quality of the learning experience, and a very positive report. The results of the 2008 Research Assessment Exercise (RAE) again reiterated Warwick’s position as one of the UK’s leading research universities, being ranked 7<sup>th</sup> overall in the UK (based on multi-faculty institutions). 65% of Warwick’s research is ‘world-leading’ or ‘internationally excellent’, with a quality level of either 3\* or 4\*. 19 Warwick Departments were ranked in the top 10 in the UK in their units of assessment and Warwick achieved a 35% increase in the number of staff selected in RAE 2008, with almost 90% of staff submitted.

The University of Warwick has a total student population of 17,000 (full-time equivalent) of whom approximately 11,000 are undergraduates and 7,000 are postgraduates. The University is an international and cosmopolitan body which is committed to tackling major global problems through research and teaching. Many of Warwick’s staff originate or were educated overseas and almost a third of the total student population comes from over 120 countries outside of the UK.

The University’s main campus, located on a 400-acre site spanning the south west boundary of Coventry and the county of Warwickshire has an open and pleasant outlook. The campus offers excellent sporting facilities, including a swimming pool, a newly refurbished gym, a climbing wall, an all weather running track and acres of football and rugby pitches. An indoor tennis centre has recently been opened. The renowned Warwick Arts Centre is one of the largest outside London with the Mead Gallery showing visiting collections of contemporary art, a concert hall, two theatres and a cinema. The 1,500 seat Butterworth Hall reopened in Autumn 2009 following a £6.9 million redevelopment.

The University of Warwick is ideally placed for easy access to London (just over one hour on the train), close to the picturesque towns of Warwick, Kenilworth and Leamington Spa and about 45 minutes from the centre of Birmingham. Immediately to the south of the main campus is rural Warwickshire and both Shakespeare’s Stratford and the Cotswolds are just 30 minutes away.

The University of Warwick has a turnover approaching £350 million. The University continues to invest heavily in its campus infrastructure and environment and current developments include a multi million pound extension and redevelopment of the Students’ Union building, a new Clinical Trials Unit for Warwick Medical School and a £2 million refit of our Chemistry teaching labs.

The state-of-the-art £50 million Warwick Digital Laboratory's foundation stone was laid by Prime Minister Gordon Brown in May 2007 and he returned to formally open the building in 2008.

Further details about the University of Warwick can be found at <http://www.warwick.ac.uk>

### **The Managerial and Administrative Structure of the University**

The University's administrative and managerial structure is headed by the Vice-Chancellor, supported by the Deputy Vice-Chancellor (this position is vacant at the present time), the Registrar, the Deputy Registrar and the Finance Director. However, as with all such structures, the informal lines of decision making and the sharing of responsibility for planning and strategy flatten the hierarchy. Institutional level decisions are initially made by a group comprising academics and administrators who form the Senate Steering Committee which operates much along the lines of a weekly cabinet for the University.

The Registrar, Mr Jon Baldwin, is responsible for the administration of the University and is supported in this task by a team of Senior Officers, each of whom is responsible for a key area and associated offices of University administration: the Academic Registrar, the Estates Director, the Director of Human Resources and Commercial Activities, the Director of IT Services, the Director of Development, Communication and Strategy, and the University Librarian. A number of office heads and directors report in turn to these Senior Officers. To ensure overall co-ordination between and across the University's administration, all administrative posts within academic departments have a "dotted line" reporting to the University Registrar as well as the Department in which they are based.