Glasgow on a global scale

The University of Glasgow has been always been outward looking and international, yet at the same time passionately proud of our roots as a Scottish place of learning, teaching and research. In 2010 a focused and ambitious international strategy was developed, concentrating on growing our international student body and our global research partnerships as well as re-thinking the curriculum and how we provide an excellent student experience. These high level aims were intended to cement our place in a global market, enhance the experience for our home and international students, open up new opportunities for research, expand our funding streams and enlarge the footprint of the University of Glasgow on a world stage.

As will be apparent, our activity markedly extends the global reach of Scotland as a country. It has the potential to create global connections, cultural, social and economic for our whole country in years to come.

Underpinning this drive to expand our platform of international engagement are two principles in particular: a commitment to develop our global engagement through mutually beneficial partnership, and a desire to balance global reach with a respect for culture and diversity at the local level.

International partnerships

The primary modus operandi of the University’s international activity is partnership working. We have over 300 formal agreements with universities overseas, covering a wide range of activities from research collaboration through to joint degrees and international student mobility arrangements. These innovative initiatives include consortium agreements and agreements with research councils, and summer school partnerships.

A major aim of our partnership working has been the development of flagship operations overseas, offering University of Glasgow degrees overseas. Glasgow has developed a significant overseas presence in the course of the last three years, building on well-established links in China/Asia to achieve a range of transnational education (TNE) provision in Singapore (Engineering and Computing Studies), and with two top-ranked ‘985’ Universities in China: UESTC in Chengdu (Engineering) and from 2015 with Nankai University in Tianjin. We estimate that we will grow our overseas-based students from a base line of 324 in 2012/13 to more than 1,800 in 2017/18 – a six fold increase.

One of these examples is the first UK Joint Graduate School in China. The School will deliver joint two year PGT programmes in International Development, Urban Planning and Environmental Management commencing in September 2015.

See Annex A for a more detailed account of the Joint Graduate School.

Another example of innovative partnership activity is the Principal’s Early Career Mobility Scheme we operate in partnership with the Universities of Columbia (New York) and Hong Kong. This is aimed at generating new activity between Glasgow and the two Universities, identifying a wide range of potential collaborations and raising Glasgow’s profile overseas. Last year nine Glasgow PhDs/postdocs traveled
to Columbia from a broad range of disciplines, including: Biomedical Engineering, English, Epidemiology, Medicine and Psychology.

To encourage the development of new international partnerships, the University operates a seed-funding scheme known as the International Partnership Development Fund (IPDF). In the 2013-2014 round of funding 40 applications were successful, the highest number since the fund was launched.

For further details on the IPDF scheme, see http://www.gla.ac.uk/about/internationalisation/fundingopportunities/internationalpartnershipfunding/

A regional approach to international activity

To ensure we balance global reach with a respect for culture and diversity at the local level, we have appointed a team of nine senior academics – International Deans – each with responsibility for a particular region of the world. This enables us to hone our activity in particular directions, taking local differences, challenges and opportunities into account. As such we have developed our activity in regions around the world in a coherent way.

For an example of how we have done this in China and East Asia, see Annex B.

International students

Like most UK Higher Education Institutions, the University of Glasgow has detailed strategic plans mapping out the best use of resources to engage with potential international students based across the world. These international students are important in many different ways, most importantly adding cultural diversity to the learning and teaching environment across the campus. These students also help to foster research links with other world leading Universities and with international businesses and organisations after graduation, a crucial objective for a research-intensive University such as Glasgow.

By making major targeted investments we have raised the number of international students in Glasgow from 2,330 in 2008/9 to almost 4,300 today. By 2017/18 that figure is projected to rise to around 5,000. In revenue terms our international students directly contributed around £60M in 2014/15, and using the BIS multiplier of 1.78, their overall worth to the Scottish economy is around £167M.

The Scottish Higher Education sector has a long tradition of working collaboratively internationally. Much of the activity is co-ordinated through the Scottish Universities International Group (SUIG) which is a recognised voice for the sector. Other collaborative bodies such as the North American Recruitment Group (NARG) have led the way in innovative recruitment activities for Scotland across North America, so much so that other regions of the UK have mimicked this collaborative approach in recent years, i.e. Welsh HEI’s, the Northern Consortium and a group of London institutions.

An example of where Scottish Higher Education institutions have recently worked together to help put Scotland at the forefront of world education is securing the annual European Association of International Educators (EAIE) conference, which will be held in Glasgow from 15-18th of September 2015. This is the second largest annual global international education conference and is expected to attract nearly 6,000 delegates from over 80 countries. It is open to individuals interested in developing internationalisation across institutions and has only been held in the UK
once in 1994 in London. It is fitting that the 2015 conference theme is a ‘A Wealth of Nations’, a nod to the University of Glasgow's most famous alumnus Adam Smith, and recognition that it was the University of Glasgow that had the original vision to bring the conference to Glasgow and Scotland as a whole.

**International mobility opportunities for Glasgow students**

The University takes very seriously its responsibility to ensure students have the opportunity to incorporate an international experience into their degree. The University has over 200 agreements with partner institutions overseas to enable students to study abroad, undertaking courses that are credit-bearing and integral to their primary degree. The University has made a strategic commitment to increase the number of Scottish and UK students with an international experience to 20% of the student population by 2020.

**Internationally funded research**

Paralleling student recruitment, we have invested significantly in both a high quality support team and infrastructure to secure growth in our internationally sourced grant capture, delivering annual income of c. £26M since 2012. We have moved from three active ERC grants in 2012 to 18 in 2015. Plans are in hand to further increase this substantially.

A specific case study of international research activity is attached at Annex C.

**Internationally focused impact and capacity building**

Within Europe we are seeking to work with civic bodies and universities to assist in the development of institutions and intellectual infrastructure. Globally, Glasgow is fortunate to have support from organisations such as Scottish Development International and the British Council. We leverage funding from nationally based research and capacity building bodies to develop networks and joint support for professional development and research partnerships with leading international partners in emerging economies. This will generate a further income stream, but just as importantly it nurtures goodwill and cooperation with emerging economies. We have already seen evidence of strong partnerships paying dividends and leading to research bids with an Indonesian consortium and a group in Pakistan. We have also recently developed a programme for capacity building in arts and culture with civic authorities in some of the Baltic countries.

See Annex D for an example of University of Glasgow capacity building activity in sub-Saharan Africa.
Annex A: Case study of international presence

Joint Graduate School

Glasgow and Nankai link up to launch joint graduate school

In an exciting new development, the University of Glasgow and Nankai University are to establish a joint graduate school on the campus of Nankai University in Tianjin, China.

Enrolment for two-year postgraduate Masters degrees, taught in English by academics from both Glasgow and Nankai, has opened, with 75 students expected to be recruited in the first year, rising incrementally to 180 in 2018.

The joint graduate school will initially offer three two-year MSc degrees, awarded jointly by both universities; in Urban and Regional Planning, International Relations and Environment Management.

The University of Glasgow and Nankai University have been working together on research and teaching collaborations since 2008. In November, the Ministry of Education in China gave its formal approval for the creation of the joint graduate school.

Professor Anne Anderson, Vice Principal and Head of the College of Social Sciences at the University of Glasgow, said: “The establishment of the joint graduate school marks a very significant milestone in the relationship between our two universities. By working together, we are combining the very best features of UK and Chinese higher education.

“Some of our most talented academics will be involved in teaching the MSc degrees at the joint graduate school. They are very much looking forward to the opportunity to engage with some of China’s brightest postgraduate students and work alongside eminent colleagues at Nankai University. Our collaboration with Nankai is yet another example of the University of Glasgow’s commitment to being a globally-connected university with creative and vibrant partnerships with communities, colleagues and students across the world.”
The University of Glasgow is ranked 55th in the world and 9th in the UK in the QS World University rankings, one of the three most influential and widely observed international university rankings; it was ranked 12th in the UK for the power of its research in last month’s Research Excellence Framework, the UK-wide assessment of the quality of universities’ research. It is also a member of the Russell Group of 24 leading research-intensive universities in the UK.

Nankai University is ranked 50th in the QS Asian University Rankings and is a member of the 985 and 211 higher education groups. Through Project 985, national and local governments award large amounts of funding to universities for the establishment of research centres, to improve facilities, hold conferences and attract world-leading staff and visiting scholars. The project members represent the top 39 universities in China. Project 211 is an initiative established in 1995 to raise the research standard at high-level universities and cultivate strategies for socio-economic growth.

Nankai is consistently ranked in the top 10-15 universities in China and has extensive international links with more than 290 internationally-renowned universities.

The two universities’ research links are further strengthened by the Confucius Institute at the University of Glasgow, launched in October 2011 in partnership with Nankai University and the Chinese Office of Chinese Language Council International (Hanban).

In 2014, the Adam Smith Business School at the University of Glasgow joined with Nankai University to form a Collaborative Innovation Centre for Chinese Economy.
Annex B: Case study of UoG’s regional approach to international engagement

University of Glasgow engagement in China

Overview of activity across China and the East Asia Region

Introduction
The University of Glasgow’s first links to East Asia date back hundreds of years and have evolved through the centuries.

The first Chinese student to study at Glasgow, Hok Tang Chain from Foo-Chow, arrived in 1886 to study Natural Philosophy and Chemistry. At the start of the 20th Century medical specialists from the University travelled to Hong Kong to staff the celebrated Medical School at the University of Hong Kong. And in the 1980s connections between the University of Glasgow and universities in Guangdong Province deepened when a scheme to train Chinese academics in University Education and Administration was developed.

As Glasgow has become ever more global in its reach and outlook, China and the East Asia region have remained at the heart of our international activity.

Over a century after the first Chinese student arrived at the University of Glasgow, the University now has a strong alumni base of over 7,000 former students across the Asia regions, 75% of whom are in China.

We now have a permanent China Country Manager based at the China Britain Business Council (CBBC) offices in Beijing, and a permanent South East Asia Manager based in the University of Glasgow campus office at Singapore Institute of Technology, and our innovative programme of transnational education is driven primarily by partnerships with universities in China and Singapore, which we plan to expand significantly in the coming years.

Transnational education – developing collaborative programmes in China and Singapore
Building long-term, mutually-beneficial partnerships in East and South East Asia is a key part of the University of Glasgow’s internationalisation strategy, and increasing our transnational education provision (TNE) is an important element of that.

The University offers six degree programmes on a transnational education basis in
East and South East Asia: five in Singapore with the Singapore Institute of Technology, and one in the Chinese city of Chengdu, with the University of Electronic Science and Technology of China (UESTC).

The University’s TNE programme in China was launched in September 2013 in partnership with UESTC. The BEng Electronics and Electrical Engineering recruited well in the first intake. Numbers are forecast to grow to an intake of 220 students per year (reaching a total capacity of 900 students by 2016/17). The current focus is on expanding to include three additional programmes: Communication Engineering, Microelectronic Engineering and Biomedical Engineering.

In addition to UESTC, the University’s strategic partner within the region is Nankai University. The University collaborates with Nankai on a number of levels: with the founding of the Confucius Institute in 2011, research collaboration across all four Colleges of the University, articulation agreements in Social Science (3+1+1, 4+1), and most recently developing a Joint Graduate School (JGS). The JGS will offer three Master programmes in partnership with Nankai University from September 2015, taking the University’s offering in the region to nine programmes. By 2018-19, it is expected that over 1,560 students will be studying for University of Glasgow degrees in the region.

Collaboration with mainland China
Alongside TNE activity, Glasgow’s collaboration with mainland China is long-established and spans a wide range of activities - from cultural ventures and innovative research partnerships to a diverse portfolio of joint degrees and teaching collaborations across the humanities, sciences and social sciences.

Sun Yat Sen University (SYSU)
SYSU is one of China’s leading comprehensive universities, with a particularly strong reputation in both Medical Sciences and Engineering, and a growing network of international partners, including Oxford, MIT, University of Tokyo and NUS.

Current joint activity with SYS includes:
- MoA Urban Studies, signed 13.03.2014 (valid for 5 years)
- MoA Student Exchange (MVLS) signed 19.07.2013 (valid for 2 years)
- MoA Urban Studies, signed 13.03.2014 (valid for 5 years)

**Computing Science and Engineering:** Glasgow signed a MoA for a 2+2 arrangement with the School of Information Science and Technology at SYSU in October 2008. After two years of study at SYSU students can transfer to Glasgow into year 3 of either the BSc Computing Science or the BEng Electronics and Electrical Engineering. Since the development of this programme there have been discussions on expanding the 2+2 programme into two new areas – Earth Sciences and Software Engineering, and developing a 4+1 programme. A new agreement has been drawn up and sent to SYSU which covers 2+2 arrangements in the following areas:
- BSc (Honours) in Computing Science (SYSU BSc in Computer Science & Technology)
- BEng (Honours) in Electronics and Electrical Engineering (SYSU BEng Information Science and Technology)
- BSc (Honours) in Earth Science (SYSU BSc Earth Sciences)
- BSc (Honours) in Software Engineering (SYSU BSc in Software Engineering)
College of MVLS:

- **Student exchange** - SYSU send students to study a tailored 5 week summer programme at Glasgow, and in return fourth year students on the MBChB will spend their elective placement at SYSU. The first cohort of 9 students from SYSU arrived in early July 2013 and the exchange has been working well since. This programme is the first clinical Sino-UK exchange.

- **Joint research symposia** – the first joint workshop was held in Guangzhou in November 2012 (also with the University of Birmingham). A second symposium was held in June 2013 in the area of Stroke, led by Professor Matthew Walters.

- **Joint teaching programmes at PGT level** – An agreement for closer academic cooperation with Sun Yat Sen University in Guangzhou was signed in 2013. This will see the development of a jointly-delivered Masters of Public Health and Primary Care programmes.

- **Research** – opportunities have been identified in the following areas: Cancer Sciences, Stomatology, Cardiovascular Sciences (including endocrinology, diabetes).

- **Transnational Education (TNE)** – in March 2013 the concept of developing a joint programme to train management and administration staff in the Chinese Medical System was discussed (which would include Business, Public Health and Medical Sciences at Glasgow). Discussions continue.

The partnership with Sun Yat Sen also provides Glasgow with a strong foothold in the Guangdong region. As the first province to experiment with opening up to foreign investment, Guangdong has produced the largest annual GDP in mainland China for more than two decades.

**Nankai University**

Glasgow and Nankai have long-standing research collaborations in the social sciences, and growing links in disciplines from Chemistry through Museum Studies, Urban Studies and Business. A joint Graduate School is now established in Nankai with delivery of joint two year PGT programmes in International Development, Urban Planning and Environmental Management commencing in September 2015.

As with Sun Yat Sen, geographical location is a significant advantage of Glasgow’s partnership with Nankai, which is based in the strategically important city of Tianjin. The city of Tianjin is situated close to Beijing, and is crucial to China’s economic development strategy. Tianjin has been undergoing an investment boom since 2003, and is experiencing its fastest sustained growth since the beginning of China’s reform era in the late 1970s. This is largely attributable to the policies of the central government, which accorded Tianjin’s Binhai New Area (BNA) national-level development zone status in 2006.

**Other partnerships**

Outwith these strategic partners we have collaborations with a wide range of other universities with whom we are developing new joint articulation agreements, student and staff exchanges and research links. These include universities in cities across mainland China, including Beijing, Xi’an, Wuhan, Shenzhen and Shanghai.
**Research collaboration**

Research collaboration between Glasgow and partners in China is extensive and becoming deeper as we seek to build research collaboration on platforms created by successful transnational education collaborations.

Collaboration with China in the Social Sciences is particularly strong. The Scottish Centre for China Research is based at Glasgow, and brings together scholars undertaking research on China across a range of social science disciplines in Scottish universities. The Centre aims to develop and support research links with Chinese scholars, universities and research institutes.

The former Director of the Centre, Professor Jane Duckett, is currently leading a multi-university collaboration that brings together experts from Peking University, the University of Manchester, and the Social & Public Health Sciences Unit at Glasgow to conduct the first nationally representative study exploring the relationship between Chinese people’s attitudes to the healthcare system and how they use it.

**Art and Art History**

Glasgow’s strong tradition of research and teaching in the fields of Art and Art History are closely tied to China. The Head of Glasgow’s School of Art, Nick Pearce, is Professor in Chinese Art with particular interests in Chinese photography, collectors and patterns of collecting Chinese art, and the historiography of Chinese art studies. Our strategic partners in China also include leading lights in the world of Art and Fine Art. Nankai, for example, is one of China’s most comprehensive universities, offering a broad range of subjects from humanities through the sciences and engineering to the social sciences. Nankai has both a thriving College of Liberal Arts and a world-renowned Department of Oriental Art.

Over the last two years the University of Glasgow’s Confucius Institute (see below for more details) has become a focus for Chinese Art in Glasgow. Working closely with our partner, Ricefield, the Institute has brought photography work by five Chinese artists to Glasgow from galleries at the heart of Beijing’s growing art and culture community; the ‘798 Space’ and ‘Three Shadows Art Centre’. We also have links through the Confucius Institute with Fan Zeng, one of China’s foremost artists working in the tradition of calligraphy, painting and poetry. In 2011 the Institute exhibited some of Professor Zeng’s work at the Kelvin Galleries in Glasgow.

Christie’s Education and the University of Glasgow are launching a new China Art Research Network (CARN), which will include representation from the UK’s major museums. CARN will provide a platform for art historians, archaeologists and museum professionals who specialise in China and who work in object-based research, including history, technical art history and conservation. The core of the network is research, with an emphasis on collaborative and partnership work with museums, archives and related collections across a range of materials from Chinese painting to jade carving. Its activities involve the organisation of conferences,

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**Qing dynasty plate from the Kangxi period (1662-1722), Hunterian Museum and Archives, University of Glasgow**

In contrast to the use of stylised motifs on other wares of this period, the decoration here is painterly and delicate. This indicates the influence of Chinese painting or woodblock prints on the ceramic trade. Ideas associated with a reclusive life were highly valued in Chinese culture. This peaceful existence was often indicated in scenes such as this: a cottage obscured from view within the recesses of a remote mountainous area. This item is part of the collection of over 330 pieces of Chinese ceramics and approximately 15 items of Japanese ceramics from the estate of James McNeill Whistler, gifted and bequeathed by the artist’s sister-in-law, Miss Rosalind Birnie Philip (1873-1958), in 1935 and 1958. Birnie Philip Bequest, 1958.
generating opportunities for doctoral and postdoctoral research, collaborative research projects and publication in print and online media.

The University’s School of Critical Studies also has strong links with China – Professor David Jasper is Distinguished Visiting Professor at Renmin University and works closely with art historians and artists in China and around the world to explore the interface between literature and theology. Glasgow’s College of Arts and Renmin University are now keen to develop a joint teaching and research collaboration in Technical Art History.

Confucius Institute

It isn’t only in China itself that Glasgow is developing strong ties with the country – our commitment extends to building links back home in Scotland too.

Our Confucius Institute is just one of several ways we’re strengthening Sino-Scottish ties in Glasgow itself. Established in partnership with Nankai University and supported by the Chinese Ministry of Education’s Office for Chinese Language Council International (Hanban), it facilitates conversation and collaboration between the West of Scotland and China, across education, the arts and business.

The Institute’s activities centre on providing Chinese language classes, and promoting a deeper understanding of China and its culture through a range of lectures and events, as well as training and support for businesses and schools. It builds on Glasgow’s existing links with Nankai University.

Links with Hong Kong

University of Hong Kong

UoG has a strong relationship with the University of Hong Kong, with a number of concentrated areas of collaboration already in existence. UoG’s first student from Hong Kong joined the University in 1883. Following this, at the start of the 20th Century Glasgow staff began travelling to Hong Kong when medical specialists from UoG went to Hong Kong to staff the Medical School at the University of Hong Kong. Both universities are members of the Universitas 21 network, which means there is regular communication between the institutions at the highest level, with regular sharing of good practice already taking place across a range of teaching and research areas.

There is particularly strong research collaboration between the College of Social Sciences (CoSS) and HKU, with a number of existing research links across a range of subject areas (Law, Urban Studies, Sociology in particular).

The University of Glasgow also has two popular undergraduate exchange agreements with HKU, one is university-wide and the other a specific agreement between the Faculty of Law at HKU and the School of Law at UoG. In addition to this,
there is a popular undergraduate exchange programme in which 60 students from HKU have travelled to study at Glasgow over the last six years.

Principal’s Early Career Scheme: UoG has recently opened an Early Career Scheme with HKU. This funding scheme has been introduced as an effective way of generating new collaboration between UoG and Hong Kong across the range of both institutions’ research activities. While the scheme is aimed primarily at supporting Early Career Researchers to undertake research at the partner institution, it is also an effective way of uncovering research links that exist between partner universities, and identifying specifically where partners are able to bring added value to each other’s research activity.

Because the scheme involves both the Early Career Researcher themself and their supervisor, it is intended to facilitate the development of complementary links between research groups at partner universities as well as supporting PhD and post-doc research.

Student numbers from HK have more than doubled over the last year. The University is proud to have an active Hong Kong Students’ Society and strong alumni links, with well over 400 former Glasgow students living in Hong Kong.

Chinese University of Hong Kong (CUHK)
UoG and CUHK are linked through the College of Medical, Veterinary and Life Sciences. There are four areas of collaborations that are particularly active:

1. Acute stroke: Professor Matthew Walters is in regular contact with CUHK, with regards to planning acute stroke work in collaboration with the emergency medicine team and stroke (and emergency medicine) specialists in Glasgow.

2. Neuropsychology: Prof Lawrence Wong from CUHK is one of the leading stroke physicians in East Asia, and serves on the editorial board of Stroke. Prof Wong and Dr Terry Quinn from UoG are taking advantage of China / UK funding schemes to develop a neuropsychology project to compare the psychological impact of stroke between cultures.

3. Scientific Review Panel: Prof Matthew Walters from UoG has served on a scientific review panel and advisory board for the joint CUHK / HKU early phase clinical trials unit. This is an advisory role and helps build stronger and wider links with both institutions.

4. Clinical education: Prof Matthew Walters conducts clinical teaching of senior postgraduate doctors in training each year. This has arisen largely through the links between the RCPSPG and the Hong Kong Medical Authority, but it puts him in touch with a wide range of clinical academics based at academic hospitals in HK affiliated to CUHK or HKU (Our Lady of Maryknoll Hospital, Alice Ho Miu Ling Nethersole Hospital, Tung Wah Hospital, Tseung Kwan O Hospital, Pok Oi Hospital).

The University of Glasgow also has an undergraduate exchange programme with the Chinese University of Hong Kong, of which over 20 students have travelled to study at Glasgow over the last five years. Both institutions have also developed research links in Law and Social and Political Sciences.
Annex C: Case study of internationally funded research activity

**Cropped: scientists plan to cut insect pests down to size by turning their own hormones against them**

The Scottish diet is often ridiculed by gastronomes as ‘chips with everything’, but potatoes are a hugely important part of the country’s economy.

Exports of seed potatoes are worth £80-90m a year and Scottish spuds are highly-prized internationally for their quality and disease-free status.

In 2013, more than 70,000 tonnes of tatties were sent overseas, with Egypt gobbling up the lion’s share, followed by Morocco, Israel and the Canary Islands.

It is a commodity worth protecting; however the main threat to this huge market isn’t the scorn of culinary snobs, but tiny bugs that spread diseases such as potato blight.

Now scientists at the University of Glasgow are hoping to develop new, eco-friendly pesticides that will reduce the danger such pests pose to commercial crops worldwide.

The creatures being targeted in this study include: moths, locusts, aphids, flies and beetles, which either damage crops directly through eating, or by spreading plant viruses.

The economic cost of pests is extremely difficult to estimate but biological threats such as insects and disease account for around 40% of all crop losses globally¹. By 2017 the world is expected to spend more than $65 billion annually on pesticides².

A new €7m European grant will see a large international collaboration led by the University of Glasgow focus on the development of artificial neuropeptides — small protein-like molecules which help the brain and tissues communicate with each other.

The scientists plan to turn the pest insects’ own hormones against them to alter their behaviour or physiology – for example, their circadian rhythms or appetite – while taking care not to harm beneficial insects such as ladybugs.

The scientists will be exploring different ways of influencing these systems in order to impair the insects’ ability to inflict damage, including:

- reducing insects’ fitness by interfering with fat mobilisation, which is important for locusts’ swarming behaviour,
- changing the neuropeptides that control the pheromones moths release to attract mates and tell each other where sources of food are located,
- Altering neuropeptides that affect the balance of fluid, ions and water in pests.

Insects have a simple kidney system similar to humans. Preventing them from losing water when need to, or forcing them lose it when they shouldn’t, will make them sick.

Professor Shireen Davies, of the Institute of Molecular, Cell & Systems Biology at the University of Glasgow who is coordinating the project, said: “Insects are the most diverse Class of life on earth, and different insects can be essential for, or highly damaging to, agriculture, horticulture and forestry.

“There is a pressing need, not just for new insecticides to combat resistance in pests, but for more specific, ‘greener’ insecticides that target damaging insects while sparing beneficial ones.”


An External Expert Advisory Board comprising four members from industry based in Germany and the USA, as well as government agencies from Belgium and the USA and American academics are also involved. The project, funded through Horizon 2020 – the EU’s research and innovation fund, will get underway in June and run for four years.

Prof Davies said: “We have assembled an international consortium with unparalleled experience in insect biology, together with agricultural, horticultural and forestry end-users, agencies and advisors who will ensure relevance to user need.

“We will set out to exploit and implement our results to impact three major economic sectors in the EU and globally.”

Professor Julian Dow, who is also working on the project at Glasgow, said: “A big reason for the emergence of pest insects is climate change which is driving the spread of ‘alien’ pests to parts of the world where they wouldn’t normally be found.

“We must also remember that in many ways, these insects are only a major problem because of the way we farm.

“Until recently the default position was to simply obliterate insects with pesticides. Now we are more focused on reducing the population of pests which, we mustn’t forget, have their own place in the eco-system.

“Neuropeptide-based insect control agents should be greener than current pesticides and may not cause resistance in insects.”

The Scottish Government, one of the partners in the project, hopes the new project could help control aphid numbers and protect this important commercial crop.
Annex D: case study of capacity building activity

Training Africa’s next generation of scientists

The University of Glasgow has secured £334,000 of funding to help train the next generation of African scientists.

The University is part of the ‘Program for Enhancing the Health and Productivity of Livestock’ (PEHPL) collaboration being led by the Nelson Mandela African Institution of Science & Technology (NM-AIST) in Arusha, Tanzania.

The PEHPL is funded by the Bill & Melinda Gates Foundation. The program will help train 16 PhD students for four years, eight of whom will be registered at NM-AIST and two each at Glasgow, Washington State, Penn State universities and the Scottish Rural College. The program is aiming for a 50% target for female recruits.

As an established partner of Glasgow, NM-AIST is an emerging centre of excellence geared towards developing new and relevant innovations for development in Africa. Among their research priorities is the improvement of health and productivity of livestock which is critical for the livelihoods and food security of millions of people in sub-Saharan Africa.

Tanzania hosts one of the largest livestock populations in Africa as well as a rich and diverse natural heritage, and world-renowned ecosystems, such as the Serengeti, Ngorongoro and Maasai steppe. These sites are important environments for studying diseases that can spread between livestock, wildlife and people.

Professor Dan Haydon, Director of the Institute of Biodiversity, Animal Health & Comparative Medicine, who together with Professor Sarah Cleaveland is leading Glasgow’s involvement, said: “This is an innovative new program funded by the Gates Foundation which will support a cohort of well-supported students at the Nelson Mandela Institute through combining the complementary strengths of their faculty with those of their international partners. It comes at a good time when we have just launched four other grants through the RCUK/DfID Zoonoses and Emerging Livestock Systems initiative, and a Royal Society-Leverhulme Africa Award related to livestock health and zoonotic disease, all in partnership with the Mandela Institute.”

Scientists and students will work with livestock farmers in east Africa to enhance the nutrition and health of people through improving the health and productivity of their livestock.

Prof Haydon added: “The program focuses on enhancing the productivity and health of smallholder farmers’ livestock by reducing their exposure to disease and improving their nutrition, genetic potential, and market value, while safeguarding animal welfare, public health and the environment.

“The proposed program will also strive to address gender gaps and inequalities by ensuring equal representation of women in the program and recognizing their pivotal role in farming activities, with the need to increase their control over inputs as well outputs when it comes to decision making.”
Based within the University, the Boyd Orr Centre for Population and Ecosystem Health is a cross-institute and cross-college organization designed to synthesise the expertise and activities of a group of researchers interested in both the clinical and ecological health of populations and ecosystems, with a common interest in quantifying, modelling, and describing ecological and epidemiological processes. A major area of research activity in ecosystem health focuses on the Serengeti ecosystem, Tanzania. The Serengeti Health Program is working on several major diseases at the human-wildlife-domestic animal interface. The program operates under the auspices of the Tanzanian Wildlife Research Institute and Sokoine University of Agriculture. Other recent projects have focused on zoonotic pathogens (IEIP-Z) in Asembo Bay, western Kenya, and malaria in East Africa.

The work of the Centre is recognized world-wide, and is built upon lasting partnerships with a broad range of collaborators. In 2013, the Centre was awarded the Queen's Anniversary Prize for Higher and Further Education. The award commends 'outstanding achievement at a world-class level', and was made for the work that the Centre does to address issues arising from the spread of infectious diseases of national and international importance.