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Research Global

(Formerly *Research Opportunities*)

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International

The big issues and opportunities of the decade for research management

The Global Research Management Network exists, most of all, to help create a genuinely international community of research management professionals. There are, of course, many ways in which this can be achieved. Good practice can be shared electronically, through surveys and benchmarking exercises, or through publications such as *Research Global*.

Personal contact, however, remains a critical part of the equation. Although financial and practical issues prevent the community from getting together on too regular a basis, those occasions where this is possible can have an enormous impact. At national and regional levels, several organisations already fulfill this role. There remains, however, a shortage of genuinely global events in the field. The major international conference organised by the ACU, in conjunction with the Southern African Research and Innovation Management Association, (SARIMA) which attracted some 220 delegates from five continents to Cape Town in May last year, clearly showed the potential for such activity.

To develop this tradition further, we are delighted to announce another major event in the field.

An exciting initiative by the International Network of Research Management Societies (INORMS) and the ACU's Global Research Management Network has led to plans for a major Congress on the **Internationalisation of Research: The Big Issues and Opportunities of the Decade for Research Leaders and Managers**. The event is scheduled for Brisbane, Australia in late August 2006.

The congress, to be hosted by the Australasian Research Management Society (ARMS), should be the most international event ever held in the field. The combination of INORMS – an umbrella organisation which represents most of the leading national and regional groups in the field –

Internationalisation of research:

Opportunities of the leaders and managers

and the global network – with its unique international membership in both developed and developing countries, should ensure widespread interest and representation. We hope that it will trigger a series of such events on a world-wide scale.

The Congress will provide a unique opportunity to strengthen international professional relationships and enhance communication and collaboration between countries and institutions (in all sectors) engaged in research and research management. The programme will address issues of direct relevance to research managers, researchers, and trainee researchers in developed and developing nations, and will be directly applicable to policymakers in considering the type of policy actions needed to support the conduct of research in a global context. The event will also incorporate the ARMS National Conference for 2006.

The Congress will reflect the objectives of its sponsoring organisations, which are to internationalise the body of knowledge on research management, to exchange best practice and to develop international approaches to supporting the research enterprise. The themes will include:

- Managing complex partnerships (eg risk management, IP management, technology transfer, creative commons, managing cultural difference, and interdisciplinary projects);
- The responsible conduct of research across international boundaries (eg codes of conduct, ethics in research involving humans, animal welfare, gene technology, bio-safety, and occupational health and safety);
- The evaluation process (eg politics of peer review, best practice, models for assessing and rewarding research quality); and
- The professional development of R&D managers and leaders (eg sustainable



Brisbane, Australia

Photos courtesy of Chris Stacey, University of Queensland.

mentoring structures, continuing education models, learning organisations, global sharing of best practice, use of the internet, building a CV).

Participants can expect to hear the latest information from panels and individual experts who have gained their knowledge from hands-on experience, learn from the initiatives of others, workshop novel ideas, develop new contacts, and leave the conference with practical advice on how to best lead teams and manage research for maximum outcomes.

Founding member societies of INORMS include:

- Australasian Research Management Society (ARMS);
- Association of Commonwealth Universities (ACU);
- European Association of Research Managers and Administrators (EARMA);
- Association of Research Managers and Administrators UK (ARMA);
- Southern African Research and Innovation Management Association (SARIMA);
- Society of Research Administrators International (SRA);
- Canadian Association of University Research Administrators (CAURA); and
- Swiss Association of Research Managers and Administrators (SARMA).

ARMS is taking a lead role in organising the conference. However, all INORMS members are invited to contribute to programme development and sponsorship activities to ensure a truly international collaborative effort. To help ensure representation from the developing world, the ACU expects to

provide a number of bursaries to subsidise the cost of attendance for participants from several countries. Full details of these will be announced in future issues of *Research Global*. Provision will also be made for adjunct professional societies and related groups to hold their own meetings whilst attending the Congress.

Regular updates will be provided as initiatives progress, but to ensure you do not miss the opportunity to take part in this event, put the tentative date in your diary (22-25 August 2006).

For more information on the Congress, visit www.researchadmin.org.au. To register interest please contact the Congress Managers at Hoteliers International: inorms@hoteliersint.com, Tel +617 3210 1646, Fax +617 3210 1606. **RG**



Jan Massey is Chair of the Executive Steering Committee of the INORMS Congress and Director of the Office of Research and Postgraduate Studies at the University of Queensland.

Network subscription fees

Organisations from countries in the lower or middle ranks of the United Nations Human Development Index receive a one-third discount on the normal rate of GBP225. ACU member universities – whether in developed or developing countries – are eligible to join at the nominal rate of GBP85. (USD will be accepted providing that all bank charges are covered by the payee). To find out if your university is a member of ACU, please visit our members page at www.acu.ac.uk/membership.

Join the network To obtain a registration form to join the network, please visit www.acu.ac.uk/researchmanagement and click on 'Join the Global Research Management Network'. For more information, email resman@acu.ac.uk.

EDULINK boost for ACP/Europe



Collaboration between European universities and those of the African, Caribbean and Pacific (ACP) region looks set for a boost with the announcement of a new programme. **Renata Russell**, of the European Commission (EC), previews the prospects.

In its effort to promote sustainable social and economic development, the EC has identified education as a high priority sector. Basic education does remain a main concern for many countries in the ACP region and for the European Union, particularly in relation to achieving the Millennium Development Goals. However, the fight against poverty can be better achieved with a global approach to education that encompasses secondary and tertiary education, vocational training linked to formal and informal employment and, in particular, promoting higher education as a means of enhancing the institutional capacities of developing countries.

In November 2001, four Director-Generals¹ reaffirmed their commitment to supporting specialised higher education when they adopted the 'Common Framework for Co-operation with Third Countries on Higher Education'. The aim of this document is to maximise the impact of new and existing higher education co-operation programmes, through the support of institutional networks at regional levels. These underlying principles were taken up by the EC in its communications on 'Strengthening Co-operation with Third Countries in the Field of Higher Education' and 'Education and Training and Poverty Reduction', addressed to the European Parliament and Council in July 2001 and March 2002, respectively².

In response to the above, EuropeAid has prepared a programme – EDULINK³ – which represents a harmonised approach for the implementation of Commission-funded programmes in ACP countries with a view to improving the effectiveness, management, visibility, hence the impact, of ACP-EU co-operation in the field of

EDULINK represents a harmonised approach for the implementation of Commission-funded programmes in ACP countries, with a view to improving the effectiveness, management, visibility, hence the impact, of ACP-EU co-operation in the field of higher education.

higher education.

Higher education is a vital part of any sustainable development strategy, as it helps to combat poverty and reduce inequalities. Yet the higher education systems in the ACP region are decaying, impairing ACP countries' capacity to produce highly skilled individuals. This situation fosters brain drain, prolonging ACP countries' dependence on external know-how thereby reducing their ability to compete in the global knowledge-based economy.

To counterbalance this trend, the EDULINK programme aims to foster capacity building and regional integration in higher education through institutional networks. It also aims to support a quality higher education system, which is relevant to the needs of the labour market, and consistent with ACP socio-economic development priorities.

The programme is open to all ACP countries, and will primarily benefit higher education institutions. There is an open call for project proposals, the main principle

being that applicants must operate within a constituted institutional network, involving at least three higher education institutions from at least two different countries within the ACP region. The participation of EU higher education institutions is not imperative, but will be welcomed, and the number of institutions from different eligible countries should always be greater than the number of EU institutions. The optimum size of a network is one that allows for the achievement of the project objectives in the most cost-effective manner.

Constituted institutional networks may solicit funding for one of the following modules:

- Institutional policy and planning;
- Academic quality and relevance; or
- Capacity building in research and technology to improve academic and teaching excellence.

Programme description

The programme purpose is to strengthen the capacity of ACP higher education institutions at their three naturally constitutive levels: institutional/administrative, academic, and research and technology. The programme has been conceived in a manner so that each of the levels mentioned above has three corresponding purposes:

- 1 Institutional capacity building of ACP higher education institutions that support policy, management and planning, and administrative capacity at national and regional levels.
- 2 Institutional co-operation to maximise academic quality and relevance in regional or subregional contexts.
- 3 Capacity building in research and technology that will enable higher education institutions to:
 - Improve their academic and teaching excellence in priority sectors linked to the socio-economic development of the ACP region;
 - Consolidate their local research cap-

links

acity;

- Import, or adapt, scientific discoveries and innovations arising in various sectors of their domestic economies or originating outside their domestic economies.

In order to increase institutional capacity and the transfer of know-how, these programme purposes will be implemented through consortia of networked higher education institutions.

The programme aims to achieve the following results:

- 1 Enhanced contribution to national and/or regional policies and implementation plans for regional co-operation in higher education;
- 2 Increased inter-institutional networking between higher education institutions in the ACP region, and with institutions in the EU;
- 3 The creation of better regional conditions for effective networking of higher education centres in research, science and technology innovation;
- 4 Enhanced management and financial

Higher education is a vital part of any sustainable development strategy, as it helps to combat poverty and reduce inequalities.

administration capacity of higher education institutions;

- 5 ACP higher education institutions become regional and/or international centres of activity as they deliver labour market oriented study programmes, which satisfy quality standards;
- 6 A suitable institutional framework is created to pursue academic excellence in higher education; and
- 7 ACP countries develop or reinforce their strategic expertise in fields linked to the socio-economic development of the country/region.

The present programme draws on the experience of similar EC-funded programmes dedicated to co-operation in higher education. The design of the programme has taken into consideration the evaluations of programmes such as ALFA for Latin America, ASIA-Link and the 'Evaluation of Selected EU Mobility Grant-Awarding Programmes' with third countries⁴. This evaluation concludes that the most positive results of mobility programmes have been achieved when they are embedded within the institution, ensuring the transfer of know-how, the promotion of regional networks, and enhanced sustainability of mobility programmes.

The programme aims to ensure that higher education in ACP countries is relevant to socio-economic development priorities, as defined at national or regional levels. The review of field mission reports carried

There is an open call for project proposals, the main principle being that applicants must operate within a constituted institutional network, involving at least three higher education institutions from at least two different countries within the ACP region.

out during the feasibility study highlights the importance of disciplines such as management sciences, industrial and biological engineering, peace and conflict resolution studies, disaster management, sustainable agriculture, hygiene and tropical health, tourism and hospitality management. The programme does not intend to limit the thematic scope of projects, but will prioritise those which are clearly linked to socio-economic development.

Further details regarding the eligibility criteria and application procedures will be announced during each call for proposals that can be accessed through EuropeAid website: http://europa.eu.int/comm/europeaid/index_en.htm. **RG**

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- 1 AIDCO, DG DEV, EAC, RELEX.
- 2 Communication from the Commission to the European Parliament and the Council on Strengthening Co-operation with Third Countries in the Field of Higher Education, COM [2001] 385 of 18/07/2001. Communication from the Commission to the Council and the European Parliament on education and training in the context of poverty reduction in developing countries, COM [2002] 116 of 06.03.2002.
- 3 EDULINK's financing proposal was presented to the European Development Fund committee in May 2005.
- 4 'Evaluation of Selected EU Mobility Grant-Awarding Programmes'. Commissioned by the EU, April 2002.

Rwandan innovation centre develops

The Kigali Institute of Science, Technology and Management (KIST) in Rwanda established a Centre for Innovations and Technology Transfer (CITT) in January 2002. The overall objective of CITT is to develop relevant technological innovations, ensure their sustainable adaptation to the Rwandan environment, and make them available to the private sector for production. CITT has been successful in developing appropriate technologies, especially for rural and peri-urban small and medium-sized enterprises (SMEs). **Professor Silas Lwakabamba** discusses CITT's strategy and projects.

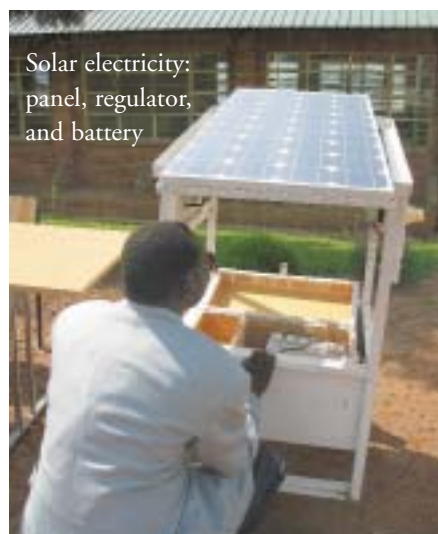
Strategy

To achieve CITT objectives, three key departments were established with specific yet symbiotic functions:

1 The Department of Technology, Research and Development (TR&D)

The Department of TR&D ensures that relevant technologies are innovated, developed and adapted to the Rwandan context before availing them to rural communities for replication. The department has two dissemination strategies, depending on the type of technology. They are:

- **Prototype technologies:** This strategy is applicable for technologies that have a concrete output prototype – for example, an improved solar crop drier. For this kind of technology, the department produces a marketable prototype, and during the process, establishes links with intermediary agencies, such as NGOs, that take care of dissemination and follow up.



Solar electricity: panel, regulator, and battery

- **Skills-based technologies:** The skill-based technologies are those which have skills development as an output – for example, the biogas technology. For this kind of technology, the department focuses mainly on training artisans and technicians to impart specific technology skills. Training is carried out directly by

CITT itself or through NGOs and local governments.

2 The Department of Women in Technology and Community Development (WTCD)

The Department of WTCD identifies communities' technology and training needs in collaboration with intermediary agencies. It also analyses gender barriers and the mainstreaming of gender in technology transfer activities by conducting community trials and providing extension services. The result is a better understanding of community needs and technologies that have better chances to succeed and be sustained by the communities themselves, for improved rural livelihoods and poverty alleviation.

3 Entrepreneurship Skills Development Facility (ESDF)

CITT is faced with an SME sector that is underdeveloped, lacking managerial and business skills as well as relevant business support services. The main function of the ESDF is to develop entrepreneurial capacity through training in business management, marketing and entrepreneurship. As part of the dissemination strategy, CITT has been systematically involved in community development activities, which

The following is a list of some of the training exercises that have been conducted in our communities:

- 1 43 masons (including prisoners) have been trained in wastewater management systems with biogas installations at various institutions, including Cyangugu, Kigoma, Butare, Kimironko, Rilima, Apena, Rwaza, Kabuga, Ruyumba and Gitarama.

- 2 25 members of the URUGANO Association (de-mobilised soldiers) were trained on fabrication of community and household energy-saving cook-stoves.
- 3 Continued training of students for various institutions, including KIST, Institut des Sciences Agricoles et d'Élevage (ISAE) and École Technique Officiel (ETO) on solar technology, machine shop

- 4 In collaboration with the Department of Food Science and Technology, 30 women from Kacyiru women's associations were trained in juice, jam and soap making, and tomato processing.
- 5 31 women from the Murambi Women's Association were trained in making energy-saving cook-stoves.

- 6 58 members from Buliza Dushyigikirane associations were trained in Participatory Rural Appraisal tools, tomato processing and business skills.
- 7 In collaboration with the Department of Food Science and Technology, 10 members from the Kibuye Women's Association were trained in juice, milk products and wine making.

essential technologies

Suspended bridge that crosses the river Mbirurume in the Kibuye province, connecting the Kibuye and Gitarama provinces

include needs assessments, training and study tours on KIST-pioneered technologies, including water and wastewater management, energy-saving cook-stoves, food processing and low-cost housing. (See page 6 for list of training activities).

Projects

Water supply for domestic use and for irrigation purposes

CITT has developed and adapted seesaw and treadle pumps, which cost significantly less than petrol- and electricity-based pumps. Trial tests conducted in the field have shown that the pumps are effective at pumping low-level water to uphill areas within a head of 9.5 metres, with delivery sufficient for small-scale irrigation projects and home use.

Additionally, CITT has already developed off-shelf designs of rainwater harvesting systems that are standardised and suited to household and community water needs, providing an alternative to pipe water (from public mains). Available scales range from water jars of 200 litres to 100,000 litre single tanks. Installation costs are very low because the tanks are built mainly out of chicken wire, cement and sand. Rainwater harvesting systems have been implemented and are operational with capacities of 30,000, 64,000, 100,000 and 200,000 litres.

Agro-processing and food storage

KIST has developed a dual-crop dryer that uses sunshine or biomass (rice husks, sawdust, firewood) as a source of heat, which can process fruit, vegetables and meat. The

grain storage bin is another facility available on the market. Its purpose is to improve food storage, enabling the stored grain to be sold when prices increase.

Alternative energy supply systems

Solar electrical systems have been implemented in service-oriented locations on campus to demonstrate street lighting and other applications that require electricity. Several households have been fitted with solar electricity systems for lighting. Plans are underway to provide the 500 households of the Arusha re-settlement village with electricity.

A standard solar water-heating system has been developed and tried in the field. Users report substantial savings in electricity bills and say that the system enables them to obtain hot water in a more convenient way. A double-glazed water heater has been installed in one of the provincial hospitals to avail hot water for the sick, and for washing clothes, since the heat generated can be as high as 80 degrees centigrade.

KIST has constructed several biogas plants and burners where the gas use has replaced 60% of firewood consumption. Additionally, CITT executes a biogas-training course, where technicians and artisans are educated in the planning, construction and servicing of biogas systems. Course attendees enjoy follow-up sessions, including on-field training, to ensure that they are kept abreast of the latest biogas technology.

As for other innovations, CITT continues to refine the design and manufacturing techniques of cook-stoves and bread-ovens to attain higher performance and maintain

the quality of every unit that leaves the production line. Thus far, about 460 improved cook-stoves have been manufactured and installed at different institutions, including schools, prisons and ministries. Twenty improved bread-ovens that save firewood, protect the environment, and make the kitchen a convenient place of work, have been manufactured and installed. This community-based, fuel-efficient bread-oven which uses just one piece of firewood to bake more than 4,000 scones in two hours won the top International Ashden award in London in October 2001.

Wastewater and solid wastes management systems

CITT has developed and installed anaerobic treatment plants that treat organic wastes – and particularly toilet wastes – for safe disposal. Essentially, these plants feature the biogas plant design with enhanced post-treatment and composting provision. To date, four anaerobic digesters of 60, 110, 550 and 1,000 cubic metres have been installed. Several others are under construction.

To dispose of organic solids, the centre has innovated underground pits, which are permanently covered, and can be used for up to 15 years before filling up, depending on the excavated space. The pits biodegrade all types of organic materials into humus without the need for incineration, and are permanently covered for maximum safety. Such a disposal mechanism is suitable for households, schools, hospitals, etc.

Continued on page 8

Continued from page 7

This year, KIST, through CITT, has been nominated among the top 11 applicants in the world for the Ashden Award for the Management of Toilet Wastes Through Anaerobic Technology, based on the outstanding achievements made at three prisons, namely Cyangugu, Kigoma and Nyagatare. The application is also based on the applied research lines that are being pursued at the Institute with the aim of attaining higher rates in the biodegradation and purification processes of organic wastewater.

Animal traction for transport and cultivation

Work is ongoing within CITT to adapt and field-test a low-cost transportation system in the form of pushcarts and ox-carts. The carts are made of locally available materials, and can be fabricated in villages. Two pushcarts are already in operation in the field, but wider popularisation shall demand hands-on courses plus providing ex-trainees with the basic equipment.

Labour-intensive rural roads and bridges

In 2001, three students of the Civil Engineering & Environmental Technology Department pioneered the design and installation of a suspended bridge (spanning 45 metres) that crosses the river Mbirurume in the Kibuye province, connecting the Kibuye and Gitarama provinces. The previous route of 5km has been reduced to only 45m. After the construction of the bridge, CITT was consulted to advise on improvement of the access road to Shyra Hospital in Ruhengeri. CITT also provided consultation services to carry out the rehabilitation of the access road to the Arusha re-settlement village in the Gisenyi district. The project is due to start in July 2005.

Low-cost housing

The housing unit has developed low-cost



Solar Food Drier

building methods and techniques that make affordable housing available to low- and medium-income earners. A housing facility that can provide accommodation for 40 families has been set up at Kanombe Military Barracks on behalf of the Ministry of Defence. Additionally, CITT is also promoting the use of compressed earth blocks as a good building alternative to burnt bricks. We have just completed a proposal to construct approximately 120 low-cost housing units in the Umutara province.

Technology and business incubation

Plans to establish a Technology and Business Incubation Facility are currently in advanced stages. The facility will have the mandate to serve as a Technology and Entrepreneurship Development Park and nurture a culture of entrepreneurialism within Rwanda. The park will foster income-generating activity through the commercialisation of scientific and technological undertakings.

RG

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DFID boost

Britain's Department for International Development (DFID) is soon to announce new opportunities for small-scale collaboration between universities. **Dr John Kirkland** summarises the background.

For 25 years, the Higher Education Links Scheme has played a significant role in fostering practical links between UK universities and their counterparts in developing countries. In 2003-04 alone, 384 links were supported in 49 countries. Over 15,000 individuals were trained or attended dissemination workshops, and over 500 modules and courses were developed at overseas institutions through the scheme.

According to Professor Bob Boucher, Vice-Chancellor of the University of Sheffield and Chair of the Higher Education Links Steering Committee, "links are essentially partnerships between at least two higher education institutions, one from the UK and one from overseas, in an area of mutual interest". As with all DFID activity, attention was focussed particularly on areas that contribute directly to the achievement of the Millennium Development Goals.

Despite the overall impact of the scheme, the size of individual grants has hitherto been small – in 2003-04 the average amount per project was under GBP10,000. Such expenditure was devoted primarily to the direct costs of collaboration, such as travel, consumables, and small items of equipment. Participating universities were required to demonstrate their commitment by meeting staff and indirect costs from their own resources, yet despite this fact, the scheme was significantly oversubscribed.

With the latest phase of the scheme due to end by 2006, an independent review of its successes and failures was commissioned in 2003. The review presented a mixed picture. It criticised the scheme, suggesting that provision focussed only to a "limited extent" on DFID priorities. The contribution of UK staff was limited

for collaborative links

by the fact that their time was not funded by the scheme, which meant that some individual projects were “necessarily modest”. Mechanisms were lacking to ensure the sustainability of projects, to learn from the achievements of projects, and to disseminate best practice elsewhere.

On the other hand, the review identified considerable strengths. The programme was recognised for effectively mobilising resources. Many of its initiatives have evolved into broader programmes and networks, whilst substantial knowledge and skills have, in fact, been transferred from the UK, at a relatively modest cost.

Against this background, the UK higher education community was delighted when, in May 2004, Secretary of State for International Development, Hilary Benn, announced support for a new higher education development partnerships programme, aiming to combine the best features of the existing scheme with improvements to meet those criticisms expressed in the review.

The precise features of the new scheme have yet to be confirmed, but the scheme is expected to be operational from the second half of 2005. A total of GBP15 million has been allocated to the scheme, to be spread over a seven-year period, with annual expenditure of three million at the scheme's peak. Reflecting the renewed focus on development issues, the scheme's new name is ‘Development Partnerships in Higher Education’.

Consultation is currently taking place with a range of key stakeholders in the programme, in particular Universities UK, given the considerable in-kind contribution made by universities to the scheme. Based on guidance released by DFID thus far, some changes can be anticipated. The following provides an overview.

Renewed focus on Millennium Development Goals

The new programme seems likely to be targeted even more closely on development objectives, concentrating in particular on the DFID priority countries. Within this,

it is also expected that there will be a stronger focus on Africa.

Emphasis on science

Although the likely impact on development will remain the overriding criteria, and funding will be available to projects in all subject areas that can meet this requirement, it is likely that the new programme will have an increased emphasis on science. This reflects a wider DFID policy to increase its involvement in this area, which has also led, in the past few months, to its appointment of its first Chief Scientific Advisor, Professor Gordon Conway.

In recent years, DFID has been a keen supporter of moves to 'untie' international development assistance. In other words, there is no requirement for any partner or supplier to be from the United Kingdom.

An untied approach

In recent years, DFID has been a keen supporter of moves to ‘untie’ international development assistance. This approach is designed to ensure that funds are allocated to projects that meet DFID objectives, irrespective of project location. In other words, there is no requirement for any partner or supplier to be from the United Kingdom. It is expected that this approach, which has already been applied to DFID research

and other programmes, will be adopted in the new scheme. South-south partnerships, or projects involving a developing country and other ‘northern’ partners, are therefore likely to be eligible for support.

Greater sustainability

The relatively small-scale nature of projects has several advantages. In particular, it enables a much wider range of work to be supported, and ensures that the ‘value added’ to each by participating universities is high. On the other hand, it is important to ensure that good projects are sustainable. It is intended that the new scheme will place greater emphasis on this area, possibly through closer liaison with other funding bodies that may have complementary interests.

Whilst the precise features of the scheme are, at the time of press, still being determined, its overall status as a significant successor to the Higher Education Links Scheme is clear, and it has been welcomed by university representatives in the United Kingdom. It is hoped that the first round of applications will be open by the end of 2005.

Up-to-date information will be available in due course on the DFID website. The main responsibility for managing the scheme will rest with the British Council, whose local offices are likely to play an active role in encouraging applications. Once the scheme is operational, those wishing to register an interest should contact the central team in Manchester (*see below for details*). Meanwhile, the ACU will have a particular role in encouraging south-south partnerships, and specific international dissemination events within the higher education sector.

RG



Dr John Kirkland is the Deputy Secretary-General (Development) of the Association of Commonwealth Universities.

For more information, please visit the DFID website at www.dfid.gov.uk or the British Council website at www.britishcouncil.org/learning-higher-education-links.htm. British Council, Manchester Office:

Tel: +44 (0)161 957 7085, Email: hel.enquiries@britishcouncil.org

New initiatives aid tracking of US-funded research

Finding new funding sources is a major concern for universities across the globe. Matching the needs of the funding agency to the needs of the university can be tricky, and even once the fit is established tracking progress both at the application stage and throughout the project is a challenge for both the funding agency and the recipient. **Tamra Hackett** discusses two US-based research-tracking tools.

Funds for research projects are often delayed due to the extensive authorisation and approval processes required from multiple parties. This is especially true when the funds are allocated from a US government agency to a non-US recipient. In response to this problem, Bruce Butrum, Chief Grants Officer at the Fogarty International Center (FIC), recently developed a 'foreign component tracking system for grants and contracts' that will improve communications among US funding agencies.

FIC is a component of the US National Institutes of Health (NIH), an agency of the US Department of Health and Human Services (DHHS), which promotes and supports scientific discovery internationally, and mobilises resources to reduce disparities in global health. It provides research project grants to foreign institutions and international organisations, including public, private non-profit, or for-profit organisations.

In order to accomplish its goals, the FIC is constantly looking for ways to provide a more systematic and central approach to the management of research funds. It is committed to getting the appropriate funds in the hands of researchers in a manner that meets their criteria. With the new tracking system, it continues to meet its objective.

The goal of the new system is an expedited clearance process for US-funded foreign grants. The system collects information about extramural foreign grant applications that was not previously captured and allows staff to track proposal requests from submission to final approval.

The system utilises new data as well as existing IMPAC II data that will allow NIH grant officers and staff to analyse

data previously unavailable in one central location. IMPAC II is a large data warehouse of grant information from the US DHHS agencies. It contains information on grant applications as well as data about activities from NIH staff. This data is the backbone of many systems at NIH.

The new foreign grants system is currently being used by NIH and the US State Department, with the intention that it will expand to include a broader audience of other funding agencies, such as the Centers for Disease Control and Prevention (CDCP), and other Department of Health and Human Services agencies.

In general, foreign parties are eligible to apply for research project grants from NIH. Additionally, the following will be assessed as part of the review process and award decision:

- Whether the project presents special opportunities for furthering research programmes through the use of unusual talent, resources, populations, or environmental conditions in other countries that are not readily available in the US or that augment existing US resources; and
- Whether the proposed project has specific relevance to the mission and objectives of the international component, and has the potential to significantly advance health sciences in the US.

NIH is one of the world's primary medical research centers, and the focal point for medical research in the US. It includes 27 separate institutes and centers, and is one of eight health agencies of the US Public Health Service, which is part of the DHHS. Its budget for 2005 is USD29 billion. For additional information on grant opportunities, visit www.fic.nih.gov.

The NIH Computer Retrieval of Information on Scientific Projects (CRISP) database is another tool that provides information about funding opportunities. The system holds data about potential partners as well as information about current projects.

The CRISP interface

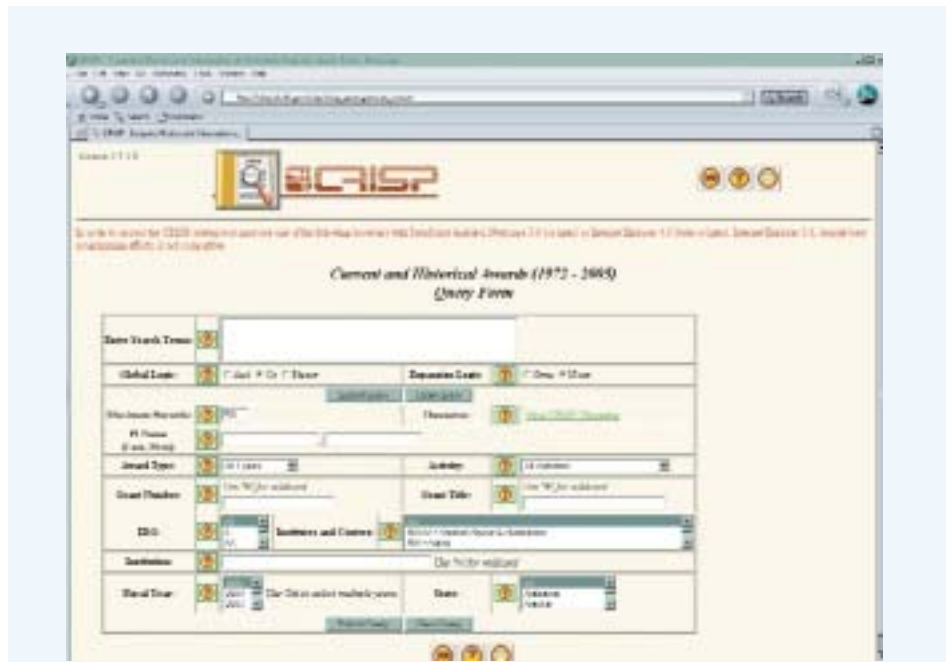
The CRISP system is a searchable database of US-funded biomedical research projects conducted at universities, hospitals, and other research institutions. The database, maintained by the Office of Extramural Research at the NIH, includes NIH-funded projects, as well as those funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), the Health Resources and Services Administration (HRSA), the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDCP), the Agency for Health Care Research and Quality (AHRQ), and the Office of Assistant Secretary of Health (OASH).

Users, including the public, can use the CRISP interface to search for scientific concepts, emerging trends and techniques, or identify specific projects and/or investigators. Visitors to the CRISP site can gather information on a wide variety of projects, research grants, and co-operative agreements, among others. The site hosts two databases: one of current awards, one of past awards. Both can be searched using keywords with a number of modifiers. Returns include grant number, name and title of the principle investigators, project title, abstract, institution, and dates. An overview and frequently asked questions are provided. CRISP is updated weekly.

Most of the research falls within the broad category of extramural projects, grants, contracts, and co-operative agreements conducted primarily by universities, hospitals, and other research institutions, and is funded by the NIH and other government agencies. A relatively small number of

research grants are funded by the CDCP, the FDA, the HRSA, and the AHRQ. CRISP also contains information on the intramural programmes of the NIH and the FDA.

For those interested in particular diseases or conditions, NIH provides reports in specific disease categories. Please note, however, that because of the multidisciplinary and co-operative nature of science, a single award may be coded in several disease or condition reporting areas. Information on NIH funding levels for specific diseases or conditions is available at www.nih.gov/news/fundingresearchareas.htm. **RG**



NIH Computer Retrieval of Information on Scientific Projects (CRISP) interface

SRA International heads for Milwaukee

Tamra Hackett provides a preview.

The Society of Research Administrators International (SRA) will hold its next annual meeting and educational conference in Milwaukee, Wisconsin, USA, on 15-19 October 2005 at the Milwaukee Convention Center. The conference is a good opportunity for anyone interested in obtaining information about funding opportunities, as well as best practices for managing all types of grants, contracts and sponsored programmes.

It is designed to bring together research experts and managers from universities, hospitals and medical centres, private industries, government agencies, and independent foundations to share best practices in research management, as well as network with colleagues.

Programme

'Education for research managers' is the focus of the conference, and the programme consists of more than 35 educational workshops, 100 concurrent sessions, 50+ poster and paper presentations, as well as over 35 exhibitions from the research community. These workshops and sessions cover the entire spectrum of research management. In addition to core topics,

this year's programme will highlight the following areas of interest:

- Biomedical, clinical and social research management;
- Financial management;
- Laws and regulations related to research;
- Professional development for research managers and administrators;
- Emerging issues in research management;
- Research sponsors and government agency updates; and
- Pre-award research and information service.

The conference keynote speaker is Dr Richard J Davidson, the William James and Vilas Research Professor of Psychology and Psychiatry, and Director of the WM Keck Laboratory for Functional Brain Imaging and Behaviour at the University of Wisconsin-Madison. Dr Davidson is internationally renowned for his research on the neural substrates of emotion and emotional disorders.

International grantees workshop

SRA has scheduled a full-day event specific to non-North American grantees. This workshop is sponsored by the Fogarty International Center (FIC) of the US National Institutes of Health (NIH) and is focused on research management for international grantees. The workshop includes

presentations from FIC, the National Institute of Allergy and Infectious Diseases (NIAID), the National Cancer Institute (NCI), the National Institute on Drug Abuse (NIDA), and the National Institute of Environmental Health Sciences (NIEHS), as well as other international representatives, to discuss case study experiences in research management. Presenters from the NIH institutes and centers will provide attendees with needed information about the NIH grants process, pre- and post-award research management issues, including frequently asked questions, how to complete an NIH-specific grant application form, and systems that an institution might use to manage an NIH grant. The workshop will include time for open discussion, and participants are invited to a reception immediately following the workshop for networking purposes. The workshop is offered at no cost to international grantees. **RG**

Tamra Hackett is the Chief Operating Officer at SRA International. For more information about the SRA conference or the FIC workshop, please contact her at thackett@srainternational.org. Additional information on the SRA conference can be obtained by visiting www.srainternational.org.

African agenda: defining RM needs

Attempts to assist the development of research management structures in African universities require a comprehensive understanding of institutional needs. A recent seminar in Cape Town provided an opportunity to assess current structures, and to identify future requirements. **Julie Stackhouse** reports.

The Demand for Research Management Support in African Institutions' workshop, held in Cape Town, 19-20 February 2005, aimed both to establish a current picture of research management in African institutions and to bring these together with NGOs to focus on specific needs and possible ways forward to develop capacity. Representatives of 11 African institutions participated along with colleagues from the ACU, SRA International, the Southern African Research & Innovation Management Association (SARIMA), the UK's Department for International Development (DFID) and the South African Universities Vice-Chancellors Association (SAUVCA). Financial support was received from DFID and the Carnegie Corporation of New York. As can be seen from the participant list on page 13, the institutions represented a varied range of historical and regional backgrounds, although the majority had comparatively well-established research functions.

Prior to the workshop, participants completed a detailed questionnaire based on the ACU's Global Surveys of 2002 and 2005. Responses, summarised by Dr John Kirkland, together with institutional presentations gave a picture of the current state of structures and services, how these have evolved, and what plans and capacity exist to develop these further. The group then worked on formulating a coherent set of needs, outlining ways in which the research management function could be strengthened. This article will focus on needs identified for pre- and post-award functions.

Pre-award

Participants heard how research manage-

ment structures had developed at the Universities of Botswana and Fort Hare and the Kigali Institute of Science, Technology and Management, along with details of pre-award provision at the University of Stellenbosch. Participants looked at issues such as the development of research policy and strategy, the role and best location of the research office within the institution, and the varied types of skills needed by staff in the research office.

The pre-workshop surveys showed structures for research management, and respondents' confidence in these, had grown. However, there remained a lack of confidence with services, particularly in market intelligence. The first area of need identified for pre-award research management was for improved information and communication, both externally and internally. For example, while it seemed that lines of communication were open with funding bodies, these tended to be ad hoc and individual-led. Respondents expressed a need for a more structured approach.

In the area of funding opportunities, respondents indicated that information-overload was a serious problem. Typically, considerable time is needed to sift through the multitude of information on opportunities from various sources and to target these to researchers. There was a demand for services, and for increased internal capacity, to package, profile, and deliver information to ensure that appropriate researchers were aware of opportunities relevant to them. More systematic development and use of internal and external databases were also found to be areas in need of improvement. While databases of funding opportunities were being used more commonly, these were often dispersed throughout

institutions, and in some cases, there was uncertainty as to which were the most appropriate external databases to subscribe to. There was also a lack of databases on university expertise.

Secondly, it was felt that more could be done to increase partnerships with funding bodies to ensure that institutions are appropriately informed of opportunities and policies, as well as consulted on priorities. Additionally, participants commented that funding bodies could further support research management by increasing commonality in their procedures with regard to funding projects, and by including items such as direct costs and standard IPR terms in their grants and contracts. Communication with funding bodies was discussed further under post-award issues.

Thirdly, the group identified a lack of capacity for training researchers and research office staff with respect to applying for grants, project management and IP management. It was felt that external support and increased networking could be used to facilitate information sharing to assist the development of training manuals, how-to guides, check-lists, and the design of training workshops.

Post-award

The group heard presentations from Brock University, Canada, the Tea Research Institute of Tanzania, and the Sharing Expertise in Technology Transfer Project¹ (SETT) on the issues of project management and knowledge transfer. Participants focused on key questions and needs in the areas of monitoring research performance, identifying and managing IP, and ensuring that research results are effectively disseminated to policymakers and wider society. They also considered what external support could be useful in each of these areas.

Several ideas for monitoring research performance arose out of the presentations and group discussions:

Workshop participants,
Cape Town, February 2005



- With respect to individual projects, clear project strategies with defined deliverables and timelines along with regular progress reports were seen as key;
- In terms of *measuring* performance, it was felt that the development of indicators, particularly in terms of relevance, as well as excellence, was an area where further work was needed; and
- For assessing the *impact* of research, it was agreed that the establishment of baseline measures was vital, as was obtaining feedback from stakeholders through surveys or meetings.

Other broader measures of research performance included publication and patenting activity, as well as tracking the final destinations of research graduates.

Overall, the need for more networking between institutions and with NGOs was stressed, so that definitions of indicators could be developed further, and good practices in assessing impact could be shared.

When it came to identifying IP, participants felt that a clearly-defined and communicated policy, which might include sharing any possible revenue, and being flexible about spin-offs, was essential to encourage researchers to disclose potential IP. Communication could be supported through personal visits to research laboratories. Further, participants highlighted the necessity of possessing expertise to identify patentable opportunities (including market analysis, and familiarity with national and international IP law) to take forward patent applications and for further management of these. Again the need for sharing good practice in developing policy was highlighted and it was felt that the provision and design of training and tools was a potential area for external support.

The group agreed that formal IP issues constituted only a small part of the technology transfer process, and went on to look in more depth at *knowledge utilisation*. As demonstrated by the experience of the Tea Research Institute, engagement with

end-users throughout the research process – not just after the research had taken place – was seen as vital to ensure that their needs were being met. With regard to the dissemination of results more widely, the group felt it was important to package information for a variety of audiences, and to use a variety of fora including, for example, the Internet, mass media, and field days and conferences.

Keeping NGOs and donor bodies informed of research undertaken was also vital. Donor bodies and associations, such as VC associations, could act as advocates on behalf of universities vis-à-vis governments to ensure that they are informed of research undertaken and to increase the impact of this on public policy formation. Donors could assist dissemination not only through advocacy, but also through their funding practices in including funds for dissemination and follow-up activities in project grants, and through providing funding for communications infrastructure, including access to the Internet and online resources.

Conclusion

The participants identified a number of important ways in which research management in their institutions could be supported and developed through increased networking with each other, through increased partnership and support from donor bodies, and through the provision of external services. Targeted flows of information and simplified access to online resources are required, as well as capacity building through training programmes, workshops and materials. Donor support is crucial, both in supporting capacity building and in their behaviour with regard to funding practices, partnerships with institutions and advocacy. Institutions can also

help themselves by sharing resources and knowledge through networking at national, regional and international levels, and by increasing their communications both internally and externally with all stakeholders in the research process. At present SARIMA is the only research management association in Africa and participants called for it to include other African members, with a view to establishing more regional associations as capacity is developed. **RG**

Participating institutions:

- University of Botswana
- University of Education, Winneba, Ghana
- Mzuzu University, Malawi
- Obafemi Awolowo University, Nigeria
- University of Jos, Nigeria
- Ahmadu Bello University, Nigeria
- Kigali Institute of Science, Technology and Management, Rwanda
- Tshwane University of Technology, South Africa
- University of Fort Hare, South Africa
- University of Stellenbosch, South Africa
- University of Dar Es Salaam, Tanzania
- Tea Research Institute, Tanzania
- Makerere University, Uganda
- Brock University, Canada (representing SRA International)
- SAUVCA ● DFID
- SARIMA ● ACU

Julie Stackhouse works in the Human Capacity Development Division of the ACU. The full report of the workshop can be found at www.acu.ac.uk/researchmanagement.

1 A joint project carried out by the University of Cape Town and the ACU, with funding from DFID, to investigate ways in which technology transfer resources can be shared between institutions.

Intellectual property protection in the global knowledge economy

Valuable intellectual property (IP) is at the core of most new and rapidly growing businesses that spin out of universities. It is important, therefore, for university research administrators to think about their role and interest in protecting IP and nurturing its development. Black's law dictionary defines Intellectual Property as "property that can be protected under a country's law, including copyrightable works, ideas, discoveries, and inventions". Such property includes novels, sound recordings, a product logo, a new device, a manufacturing process, or a cure for a disease. In what follows, **Paul G Waugaman** considers IP protection through the eyes of a business development consultant and technology manager. He suggests eight principles that underlie technology management at a university or academic research organisation, and eight simple rules to successfully manage technology.

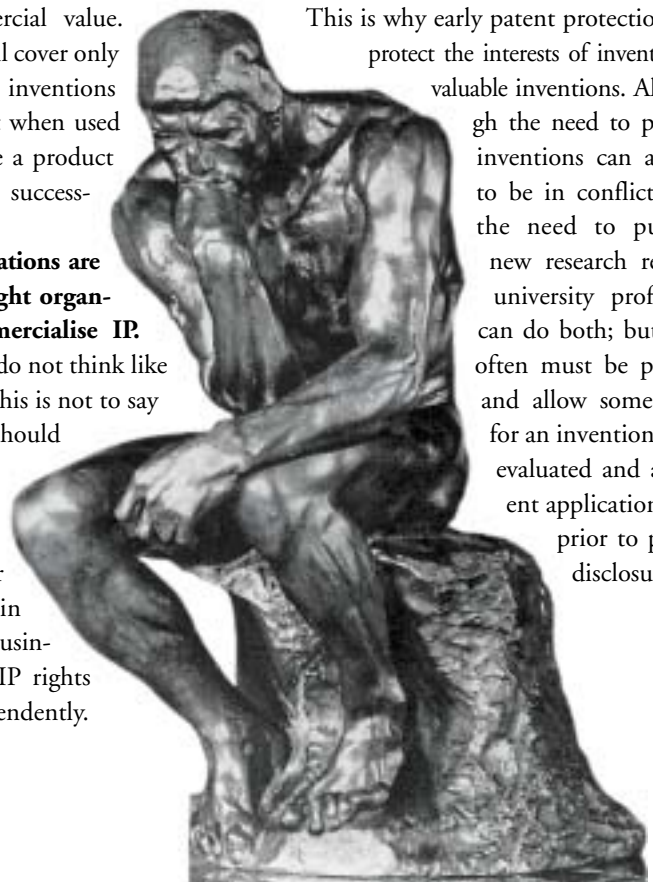
The principles

- 1 Protecting IP is in keeping with the university's research, teaching, and service missions.** Most countries' patent laws require a patent or patent application to disclose fully how an invention works so that others may learn from it. The purpose of this disclosure is to encourage further inventive activity that leads to advancement in the field of technology. The purposes and intents of the patent system actually fit closely with the values of academic institutions.
- 2 The discoveries that are the basis of IP are not well developed at most universities when patent applications need to be filed.** The end-point of most university-based research projects is usually the elucidation of a concept or principle with preliminary data to prove a hypothesis. Taking such a discovery to the next steps – proof-of-principle, reproducibility of results, and scaling up for production – are not the usual concerns of academic research, and certainly not that of most external sponsors of academic research.
- 3 Not all inventions and discoveries are valuable.** Most analyses of successful inventions emerging from academic research organisations reveal that the frequency of success is quite low. Success can be defined in varying ways. At one extreme, success could be getting more money back than was spent on the research. At a more liberal level, success

could be getting a company to take a license for the invention. In most studies, the frequency of success was below one-in-ten. It is important for universities and inventors to consider carefully the potential value of a new invention before investing in expensive IP protection.

- 4 Inventions that are not valuable do not need or deserve IP protection.** Every student of IP has his or her list of favourite 'dumb inventions', such as hat-tipping machines, which have received patents. Unless a patent can prevent others from using a technology, it has no commercial value. Often, a patent will cover only a small part of the inventions and methods, that when used together can make a product that can be sold successfully.
- 5 Academic organisations are usually not the right organisations to commercialise IP.** University leaders do not think like business leaders. This is not to say that universities should not pursue the commercialisation of their IP; but things will work out better if they do so in partnership with businesses that license IP rights and operate independently.

- 6 Institutions and individuals that participate in creating IP and adding value to IP should participate in the returns.** This principle is especially true for academic organisations whose missions are to do other things than inventing and discovering new technology. When this happens as a by-product of research, teaching or service, it is especially important to share the proceeds. For this reason, almost all universities in the US and Europe have policies for sharing the proceeds with inventors. Likewise, institutions have a stake in the returns as well. It is also important for IP owners everywhere to assert their rights. Universities in Europe and North America have been learning how to do this for a quarter-century, and universities in the rest of the world need to catch up quickly.
- 7 Valuable inventions that enter the public domain are not likely to get commercialised.** A new invention or discovery that is patentable and may be valuable can become "public property", freely available to all unless patent protection is sought before public disclosure. This is why early patent protection can protect the interests of inventors of valuable inventions. Although the need to protect inventions can appear to be in conflict with the need to publish new research results, university professors can do both; but they often must be patient and allow some time for an invention to be evaluated and a patent application filed prior to public disclosure.



8 Inventions that cannot be patented in one country can often be patented in another country. Because almost every country has its own patent and IP laws and examination criteria, standards for awarding patents or trademarks differ from country to country. Important new innovations can be valuable even when world-wide protection is not available. An invention made in India, for example, may not be patentable in India, but may be patentable and quite valuable in Australia and Europe.

Now for the 'eight simple rules'. I am indebted to my colleague, Dr Detlef Wilke of Hannover, Germany, for originating them. If followed, they can keep a university on focus in technology management.

The rules

- 1 Avoid early public disclosure of a new invention. File a patent application first, then publish or talk freely.** In an academic environment, this isn't easy. Professors often do not tell administrators what they are doing. Administrators often cannot make decisions quickly. However, it can be done. Practiced and competent universities do it all the time.
- 2 Do not publish interim results or speculate on broader applications of a discovery even after you have filed a patent application on narrower applications.** Interim results and speculative statements in the public domain can make it impossible to get a patent later. Again, this isn't easy. What gets into publications is usually the responsibility of the authors. Universities can educate their researchers about IP and the importance of inventors' actions to its protection, and hope for the best.
- 3 Do some research on the commercial market opportunities and the technical novelty of an invention before you decide to file a patent application.** This should be done quickly when an invention is disclosed. The inventor can help, but you need to get beyond the inventor's knowledge and perspective. Keep in mind that market opportunities are primarily driven by market needs,

then by the scientific and technical elegance of the invention. Consider professional help; and at an early stage, err on the side of starting protection when your information is incomplete.

- 4 Consider the possibilities to license or develop the invention before you decide to file a patent application.** This consideration can be part of that under rule 3. When you file a patent application, you should have a pretty good idea of the commercialisation path, and why the selected alternative is preferred.

In most countries, you have a 24-30 month 'window of opportunity' to launch a commercialisation effort based on a patent.

- 5 If the patent you want to get cannot be protected from infringement, it will not be valuable. Do not file an application.** A patent is a commercial asset. If it has no commercial value, why pay for it? A patent that cannot prevent competitors from making or selling a product or service has no commercial value.
- 6 File in your home country first; file an international application later.** Do not pursue, or drop domestic and international applications if there is no interest in licensing or development of the invention in a reasonable time. In most countries, you have a 24-30 month 'window of opportunity' to launch a commercialisation effort based on a patent. Also, bear in mind that most single-nation markets are not sufficient to return value to a commercial venture. Once you have filed a patent application in your home country, you have 12 months before you must file for international protection. International rights can be protected by filing a Patent Cooperation Treaty (PCT) application, identifying those countries where you plan to file further national applications. You

then have 12 to 18 additional months before expensive national applications must be filed. These periods define your window of opportunity.

- 7 If work on the invention continues, and the inventor cannot prove the invention works in a reasonable time frame, drop the application.** To protect a potentially valuable invention, an application might be filed before research on the discovery is complete. However, if further research reveals that the discovery cannot be practically 'reduced to practice' (more patent jargon), the patent will be useless. Why spend any more money?
- 8 Periodically purge your institutional portfolio of patents. Do not pay for non-productive patents or patent applications.** A patent that has not been licensed, and is not making money – nor likely to make money – for the inventor or owner is simply costing money. Most countries charge patent maintenance fees for the life of a patent. Simply say no, and stop paying fees for unproductive patents.

Conclusion

Understanding the potential value of intellectual property, and the actions necessary to protect both the inventors' and the institution's interests in valuable IP is an essential step in the value-adding chain of technology development and innovation. Doing all this may seem counter-intuitive to most classically-prepared scientists and administrators at universities, but there are ways to obtain help from the private sector and to prepare the proper policy and staff frameworks. **RG**

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EC adopts new frameworks fo

Developing coherent research structures is vital if universities and countries are to meet their future targets. **Lindsay Nielsen** reports on a new initiative from the European Commission (EC).

In an effort to establish common standards for researchers throughout the European Union, on 11 March 2005, the EC adopted a 'European Charter for Researchers' and a 'Code of Conduct for the Recruitment of Researchers'. Such endeavours represent an attempt to provide a structure to a highly diverse and complex profession.

Europe's research needs

It is estimated that 700,000 more researchers will be required to reach the goal of investing 3 per cent of EU GDP for R&D, while simultaneously replacing the ageing research workforce.

In the US, there are 8.1 researchers per 1,000 in the workforce; in Japan the figure is 9.1.

While the number of researchers in the EU rose from 5.4 per 1,000 in 1999 to 5.7 in 2001, the European figures are cause for concern, as the potential shortage of researchers could jeopardise the future of the EU's innovation, knowledge and productivity efforts.

To ensure that the EU has the researchers it needs in the future, the Commission's new documents address the necessity for the EU to:

- Improve its attractiveness to researchers;
- Increase the participation of women researchers;
- Provide researchers with long-term career prospects by improving their employment and working conditions;
- Reinforce R&D as a profession; and
- Create more favourable conditions for mobility within a given research career path.

Why the recommendations are important

The Charter and the Code of Conduct aim to bring unity to research professions in Europe, which many see as fragmented

at local, regional, national or sectoral levels. These two documents will give individual researchers the same rights and obligations, despite the location of their workplace within the EU, thereby increasing mobility and working conditions, in addition to strengthening R&D throughout Europe.

"By setting out the roles and responsibilities of researchers, we are going some way to ensuring that researchers, wherever they work, are treated with the respect and esteem they deserve"

**Janez Potocnik,
European Commissioner
for Science and Research**

An overview of the Charter

The 'European Charter for Researchers' addresses the roles, responsibilities and entitlements of researchers, and those of their employers or funders. The Charter's objective is to ensure that the relationship between these stakeholders contributes to successful performance in the production, transfer, and sharing of knowledge, and the career development of researchers. The Charter is applicable to all stages of research careers and all forms of research, regardless of employment type, the legal status of employers, or the kind of organisation in which the work is performed. The Charter also acknowledges the numerous roles of researchers, including conducting research itself, supervision, mentoring, management, and administration.

While it is not possible to address all of

the Charter's various principles and requirements in the present article, the following provides a flavour of its values and scope. (The full text of the Charter and the Code of Conduct can be found at <http://europa.eu.int/eracareers/europeancharter>).

Definition of the researcher In the recommendations, the internationally recognised Frascati definition of research is used; thus researchers are described as "professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned".

Principles for researchers Some of the general principles and requirements applicable to researchers are as follows:

- **Research freedom:** "Researchers should focus their research for the good of mankind and for expanding the frontiers of scientific knowledge, while enjoying the freedom of thought and expression, and the freedom to identify methods by which problems are solved, according to recognised ethical principles and practices". The Charter does, however, address the fact that certain limitations to this freedom could ensue due to specific circumstances, such as budgetary constraints or reasons of IP protection. The Charter emphasises that these constraints should not infringe upon ethical principles and practices.
- **Ethical principles:** "Researchers should adhere to the recognised ethical practices and fundamental ethical principles appropriate to their discipline(s) as well as to ethical standards as documented in the different national, sectoral or institutional codes of ethics".
- **Contractual and legal obligations:** "Researchers at all levels must be familiar with the national, sectoral or institutional regulations governing training and/or working conditions. This includes intellectual property rights regulations, and the requirements and conditions of any sponsor or funders, independently

r research staff

of the nature of their contract”.

- **Dissemination, exploitation of results:** The Charter emphasises that all researchers must ensure that research results are disseminated and exploited.
- **Public engagement:** “Researchers should ensure that their research activities are made known to society at large in such a way that they can be understood by non-specialists, thereby improving the public’s understanding of science”.

Other principles addressed in the Charter include professional responsibility, good practice in research, and supervision and managerial duties.

Principles for employers & funders

Some of the Charter’s general principles and requirements that are applicable to employers and funders include:

- **Recognition of the profession:** “All researchers engaged in a research career should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, namely postgraduate level”.
- **Value of mobility:** “Employers and/or funders must recognise the value of geographical, intersectoral, inter- and trans-disciplinary and virtual mobility as well as mobility between the public and private sector as an important means of enhancing scientific knowledge and professional development at any stage of a researcher’s career”.
- **Intellectual property rights:** “Employers and/or funders should ensure that researchers at all career stages reap the benefits of the exploitation (if any) of their R&D results through legal protection and, in particular, through appropriate protection of intellectual property rights, including copyrights”.

Other principles in the Charter include non-discrimination, gender balance, working conditions, funding and salaries, access to research training and continuous development, co-authorship, and complaints/appeals.

An overview of the Code of Conduct

The objective of the ‘Code of Conduct for the Recruitment of Researchers’ is to improve recruitment and to make selection procedures fairer. The Code also advises new means of evaluating merit – moving beyond publication numbers to encompass criteria such as teaching, supervision, teamwork, knowledge transfer, management and public awareness activities.

Principles for the Code of Conduct

Issues addressed in the Code of Conduct include:

- **Recruitment:** “Employers and/or funders should establish recruitment procedures which are open, efficient, transparent, supportive and internationally comparable, as well as tailored to the type of positions advertised”. The Code specifies that advertisements must give a broad description of the knowledge and competencies required. Employers should delineate the working conditions, entitlements, and opportunities for career development, and application submission deadlines must be feasible.
- **Selection:** Selection committees should include individuals from a variety of areas of expertise, should have sufficient gender balance, and where pertinent and possible, should include members from different sectors and disciplines.
- **Recognition of qualifications:** Employers and/or funders should provide suitable evaluation of academic and professional credentials, including non-formal qualifications, especially in the context of international and professional mobility.

Other principles addressed in the Code include transparency, seniority, and post-doctoral appointments.

The next step

The maximum benefit of the Charter and the Code of Conduct will be obtained if all research stakeholders play a role in the ensuing debate. These frameworks can only be useful if they properly address the

needs and concerns of their stakeholders. Europe’s universities, of course, have a key role to play, given their mandate as employers with responsibilities for the professional development of researchers, and their need to cultivate ‘competitive environments’ which must create attractive conditions for researchers and further their ability to build research networks and collaborations. On 3-5 February 2005, the European Universities Association (EUA) opened the debate at its Salzburg Seminar on ‘Doctoral Programmes for the European Knowledge Society’. Over 300 HE and research professionals attended the seminar, and debated the connection between research training and career development as a means to enhance European research capacity.

Employers, funders and the researchers themselves, along with member states, have welcomed the Commission’s recommendations, and have actively participated in its preparation. The issues at hand are of critical importance. As Janez Potocnik, European Commissioner for Science and Research says, “by setting out the roles and responsibilities of researchers, we are going some way to ensuring that researchers, wherever they work, are treated with the respect and esteem they deserve”.

The Commission invites member states to notify it by 15 December 2005, and annually thereafter, of actions they have taken to further the recommendations, and to advise it of the initial outcomes of its application, in addition to examples of good practice.

Source: <http://europa.eu.int>.

RG

Lindsay Nielsen works in the Human Capacity Development Division of the Association of Commonwealth Universities. The text of the Charter and the Code of Conduct can be found at <http://europa.eu.int/eracareers/europeancharter>. Interested parties can also post their feedback on this site.

The evolution of **international academic collaboration**

International academic collaboration has evolved over the years through several stages of increasing intensity and scope. In the following, **Professor R Natarajan** traces the evolution of perceptions, paradigms and models that characterise such collaboration. Some of the barriers to collaboration are identified, and strategies for overcoming them are proposed.

Early paradigms and models

Early paradigms of international academic collaboration were focussed on aid, assistance, direct support, grants, donations of equipment, and secondment of faculty and technicians. It was normally valid for a specified duration, sometimes extended for a further period. The exchange of personnel (faculty, research scholars, students) was restricted to movement from donee country to donor country; and most of the funding for exchange of personnel was met by the donor country. Such collaboration was normally the result of bilateral agreements between governments or institutions, through, for example, a Memorandum of Understanding (MoU).

Current and emerging perceptions/ paradigms

At present, a new scenario is emerging whereby 'internationalisation' is considered to be a measure of quality and excellence. Most universities have full-fledged Offices of International Relations, staffed by senior professionals. International accreditation equivalence initiatives, such as the Washington Accord, serve to promote international collaboration and personnel exchanges. Partner institutions are seeking meaningful relationships which add value, beyond just signing MoUs. Opportunities now exist for international partners to access third-party funding agencies, such as the European Commission, the World Bank, and the Asian Development Bank.

Current and emerging models

The current and emerging models take a number of different forms:

- Consortium-mode collaboration: Two groups of institutions from two countries enter into an umbrella agreement, which enables them to have a more effective and significant research impact. Examples include G-10 Canadian research universities with five IITs (for comprehensive collaboration); six German universities with five IITs (for exchange of postgraduate scholars); EPFL and ETH, the two Swiss Federal Institutes of Technology, with the IITs and IISc (for comprehensive collaboration);
- Twinning arrangements between two universities, for offering joint degrees, as well as single/double degrees;
- The development of university consortia (of similar nature and quality) within the same country; for example G-10 of Canada, or of different countries, eg Universitas-21;
- '2+2' collaborations involving an industry and an institution in one country, with a similar pair in another country; and
- Networking: This is different from consortium-mode collaboration. If institution A in country A has collaboration with institution B in country B and institution C in country C, and if this promotes collaboration between institution B and institution C, then a network is created. There is, in principle, no limit to the number of institutions that can be networked, although success may depend on the complementary strengths and interests of the parties.

Overcoming barriers and strategies for success

The enthusiasm with which MoUs are sought and signed is often not matched by

sustained interest and activities. Incompatibility between national systems and different media of instruction pose difficulties for collaboration. When a balance between the partners does not exist, resource sharing, the granting of credit and IPRs, among others, can become contentious.

To ensure the success of collaboration, staff of all levels must be committed to the collaborative enterprise. The interface between the partner institutions must be carefully designed and managed by persons with competence, commitment and care. Appropriate incentives, procedures and reward systems must be put in place.

Each institution – and each partnership – must define the objectives and metrics for assessing the outcomes of collaboration. They need not all have identical measures, however, they should be appropriately aligned with the vision, mission, and objectives of individual institutions.

The adopted measures may include, for example, the number of MoUs signed between parties, the total value of joint projects, the number of IPRs generated, the diversity of stakeholders involved, etc. Knowledge of complementary strengths and interests can be crucial. Surveys, meetings, information and communication exchanges are necessary for establishing databases/matrices to map potential areas of collaboration.

Sabbaticals between faculty of partner institutions promote interest and motivation for collaboration. The availability of sustained funding is, of course, crucial to the nature and scope of activities that can be supported.

A recent systematic study to promote Indo-Canadian research collaboration

As a precursor to the establishment and promotion of research collaboration between Canadian and Indian institutions, a recent systematic study has been undertaken¹.

This study involves a comprehensive overview of the science and technology innovation agenda as it relates to institutional links in Canada and India with potential for partnerships between various S&T sectors themselves, and with the private sector, in both countries.

The terms of reference for this overview were to perform “a feasibility study of the overall assessment, mapping of interests and identification of a common co-ordinating mechanism of academic, government and private partnerships”. The ultimate objective of the study was “to serve as a stepping-stone in establishing a solid ‘industrial technology exchange’ pipeline between the two countries through innovative research”.

As a part of the mapping study, a scientometric and technometric study was contracted to Science – Metrix Inc, Montreal, Canada, and involved data analysis for the 10-year period, from 1990-2001. It was aimed at determining “the interest, quality, specialisation and impact on S&T outputs in both Canada and India, and the nature and volume of collaborative efforts by institutions and individuals in the above 10 year period”. The scientometric study employed the Thomson-ISI’s Science Citation Index (SCI) database for output indicators, and the SCI Expanded database for Indo-Canadian collaboration indicators. The technometric analyses employed the US Patents and Trademark Office (USPTO) database for patents.

The study examined two indices: the specialisation index, as an indicator of the relative intensity in a given field; and the average relative impact factor (ARIF) as an indicator of the general quality or importance of the journals in which the papers are published in a given field or sub-field.

Among the significant findings are that Canada has a low specialisation index but a very strong impact factor in the fields of chemistry and physics, while in India these disciplines have high specialisation and low impact, representing a complementary pattern that merits collaboration for mutual ben-

efit. In addition, it was possible to devise a matrix of complementary strengths, interests and future plans of the G-10 (research-intensive) universities of Canada and five Indian Institutes of Technology and the Indian Institute of Science.

As a part of this effort, a group of senior academics from the Canadian universities visited the Indian institutes during 26 March – 4 April 2004. A significant outcome of this initiative was the signing of several MoUs between the participating institutions from the countries, both as a result of the visit of the Canadian delegation as well as the visits of individual Canadian universities to specific Indian institutions.

Indian initiatives for international research collaboration

The nodal agency at the national level for international research collaboration is the Department of Science and Technology. India currently has S&T co-operation agreements with 57 countries; this includes developed countries such as France, Germany, Italy, Japan, the UK and the US, as well as emerging economies such as China and Brazil.

The vehicles of co-operation employed to achieve the objectives aim to:

- Facilitate and promote joint collaborative projects and programmes under S&T arrangements;
- Support exploratory visits to identify trends and specific areas of scientific collaboration;
- Enable exchange of scientists and technical experts through fellowships;
- Promote exchange and dissemination of information and scientific opportunities through joint workshops, seminars and symposia;
- Facilitate co-operation in R&D, leading to technology transfers and product development;
- Extend avenues for training in specialised areas of R&D with a focus on

- providing access to large facilities; and
- Create a comprehensive database and reference source of Indian diaspora with the aim to establish links and interactions leading to S&T collaborations.

Some recent Indian initiatives include the following:

- The National Board of Accreditation of the All India Council For Technical Education (AICTE) has applied for membership of the Washington Accord;
- “Familiarisation visits” by a team comprising members from Canada, Australia and the UK took place in January 2005.
- Five of the IITs have entered into an agreement with six of the top universities in Germany, where about 15 students from each IIT will pursue MTech work in German universities.

The G-10 Canadian universities consortium has completed a study identifying complementary strengths and interests vis-à-vis seven IITs and the IISc. A Canadian delegation recently visited India for detailed discussions; MoUs were signed and a few bilateral agreements were reached. An Australian delegation from the University of Melbourne recently visited the IITs and IISc; it is hoped that other interested Australian research universities will seek a consortium-mode partnership with the IITs-IISc system.

Conclusion

A considerable amount of experience has been accumulated over the years in international academic collaboration, from which a number of lessons can be drawn. In general, it is recognised to be a win-win relationship for the collaborating institutions/countries. It is even considered to be a measure of quality, performance and reputation for an academic institution. **RG**

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1 Ravi Seethapathy and David Johnston, ‘Institutional Linkages: Academic/Government/Private Partnerships in the Canadian & Indian Science & Technology Sector’. Canada – India S&T Mapping Study, 2004.

Recent publications

ACU Librarian, **Nick Mulhern**, summarises.

USA

Academic Capitalism and the New Economy: Markets, State, and Higher Education by Sheila Slaughter and Gary Rhoades. Analyses the effect of a more entrepreneurial culture in the US HE sector, specifically the development of an 'academic capitalist knowledge/learning regime' as institutions engage with a competitive market environment. [Slaughter, S; Rhoades, G, 0-8018-7949-3, John Hopkins University Press, 2004 (www.press.jhu.edu)]

Academic Capitalism: Politics, Policies, and the Entrepreneurial University was an earlier study co-authored by Sheila Slaughter (with Larry L Leslie), focusing on an international comparative study of academic work and careers. [Slaughter, S; Leslie, L, 0-8018-6258-2, John Hopkins University Press, 1999 (www.press.jhu.edu)]

South Africa



Industry & Higher Education devotes its April 2005 issue (Vol 19, No 2) to a selection of papers on HE-industry research partnerships and innovation in South

Africa. [0950-4222, IP Publishing, (www.ippublishing.com)]

Russia

Entrepreneurialism and the Transformation of Russian Universities (IIEP New Trends in Higher Education series). Examines the effect of major economic restructuring and expansion in the HE sector, specifically the impetus it has given to a more entrepreneurial approach by universities. Case studies characterise the

transformations achieved and provide possible 'new models for other advanced industrial economies'. [Shattock, M; Kniazev, E; Pelikhov, N; Sandgren, A; Toivonen, N; 92-803-1268-5; 2004 (www.unesco.org/iiep)]

Australia

Backing Australia's Ability: The Australian Government's Innovation Report 2004-05 published by the Department of Education, Science and Training (DEST) in Australia. Fourth in an annual series of reports, analysing R&D expenditure, achievements and goals. Incorporates the second 'Innovation Scorecard', benchmarking Australia against other OECD countries. Progress towards Australia's National Research Priorities (NRP) is also assessed. [DEST; 0-642-77490-0, 2005 (http://backingaus.innovation.gov.au)]

Measuring the Impact of Publicly Funded Research is a recently published (February 2005) study commissioned by DEST, and undertaken by The Allen Consulting Group. The study aimed to 'produce a classification/typology of the benefits (ie impacts) of publicly funded research taking into account international and Australian efforts to date to build such a typology' and to 'propose ways of systematically and cost effectively measuring each of the benefits in this typology'. [The Allen Consulting Group; DEST; 2005; (www.dest.gov.au/resqual/publications.htm#2)]

UK

A Set of ***Model Agreements*** for research collaboration developed in connection with the UK's recent ***Review of Business-University Collaboration (Lambert Report)***, from the Department of Trade and Industry (DTI). Drawn up by the Lambert Working

Group on Intellectual Property with input from AURIL, the CBI, and the Patent Office, among others. Intended to: 'facilitate negotiations between potential collaborators, reduce the time and effort required to secure agreement, and provide examples of best practice'. The model agreements, or contracts, constitute an online 'toolkit', and as such give practical support for university/industry partnerships and research collaborations. Included on the site is a 'decision guide' advising researchers on the most appropriate research collaboration contract, and recommendations for ensuring research collaborators 'have similar expectations for the proposed project'. The Council for Industry & Higher Education (CIHE) (www.cihe-uk.com) has also provided a useful brief analysis which aims 'to rehearse some considerations which affect how the Lambert Toolset Models are applied', so offering a context for their 'constructive use'. (www.innovation.gov.uk/lambertagreements)

UNICO: Annual Survey of UK University Commercialisation Activities. Published 11/04. Enables comparison of UK higher education institutions internationally by collating statistics on commercialisation of research from 2002-03. Increased licensing income, patent applications and patents issued, among other areas, are all recorded. 'A key finding of the survey concludes that whilst some UK universities are not engaged in the commercialisation of intellectual property in any substantial way, others are international benchmarks of excellence and commit significant resource to this activity.' (www.unico.org.uk)

RG

Resources

Research and development dossier from SciDev.Net

A new dossier from the Science and Development Network (SciDev.Net), compiled under the guidance of an international panel of 23 advisors, brings together a range of articles that cover topics of direct relevance to understanding R&D policy in developing countries. The dossier contains policy briefs, opinion articles, news items and features, as well as links to key documents and relevant organisations.

Policy briefs:

- *The 'System of Innovation' Approach, and its Relevance to Developing Countries*, by Eva Dantas
- *International Scientific Collaboration: A Quick Guide*, by Geoffrey Oldham
- *The Role of Universities in Knowledge Production*, by Judith Sutz

Opinion:

- 'How Intellectual Property Rights can Obstruct Progress', by Carlos Maria Correa
- 'Reducing Poverty needs an 'Innovation System' Approach', by Andrew Barnett
- 'Rethinking Science Aid', by Keith Bezanson and Geoffrey Oldham

New material will be continuously added to the dossier, including a 'spotlight' on R&D policy in sub-Saharan Africa. Upcoming policy briefs are *Developing State Capacities to Formulate and Implement Science, Technology and Innovation Policies*, by Joachim Ahrens, and *The Participation of Companies in R&D and Innovation*, by Sunil Mani.

A companion 'quick guide' on technology transfer will also be launched. To contribute ideas or to provide feedback on either dossier, please contact SciDev.Net at dossiers@scidev.net.

SciDev.Net aims to build capacity through the provision of free reliable information on science-based issues for the developing world. The website is backed by the world's two leading scientific

journals, *Nature* and *Science*, and the Third World Academy of Sciences. To receive free weekly email alerts, or to register for the dossier, visit www.scidev.net.

New trans-disciplinary journal launched

A diverse group of academic scholars, research students, and research-inclined professionals have come together to launch a new peer-reviewed electronic journal to supplement various initiatives to build research capacities around the world. The inaugural issue of the *Journal of Research Practice: Innovations and Challenges in Multiple Domains (JRP)* is available at <http://jrp.icaap.org> in an open access mode, ie full-text access that is available to everyone, free of charge.

The journal seeks to connect research-inclined persons working in different disciplinary, institutional, and practical contexts, as well as extend the practice of research to new territories. Both these aims are expected to facilitate the wider purposes of promoting research education around the world, and innovative forms of research in different socially relevant areas.

JRP is published by the International Consortium for the Advancement in Academic Publication (ICAAP), a R&D organisation devoted to the advancement of electronic scholarly communication. It is located at Athabasca University, Edmonton, Alberta T5J 3E4, Canada. For more information, visit www.icaap.org.

Free access to *JRP* has been made possible through institutional sponsorship from:

- Center for Science in Society, Bryn Mawr College, Pennsylvania, USA;
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- Nokia Research Center, Beijing, People's Republic of China;
- Universidad de Santiago de Chile, Santiago, Chile; and



- Xavier Institute of Management, Bhubaneswar, India.

The editorial board comprises two editors, Dr DP Dash (Xavier Institute of Management, India) and Héctor R Ponce, (Universidad de Santiago de Chile, Facultad de Administración y Economía, Chile), and is supported by an international multidisciplinary team.

For more information, contact Dr DP Dash at professor_dash@yahoo.co.uk.

Low Cost Journals Scheme gains new publisher

The ACU's Low Cost Journals Scheme will have a new publishing partner in January 2006. IP Publishing Ltd has agreed to take part in the scheme, offering five journals to African university libraries (ACU members only) at 20% of the regular price. The journals are:

- *South East Asia Research*;
- *Outlook on Agriculture*;
- *Tourism Economics*;
- *Industry and Higher Education*; and
- *The International Journal of Entrepreneurship and Innovation*.

The ACU's Low Cost Journals Scheme was established in 2002 to help ACU member universities in developing countries gain access to scholarly publications at substantially reduced rates. For more information about the scheme and the 11 other publishers involved in it, please visit www.acu.ac.uk/lowcostjournals or email Deborah Bennett at d.bennett@acu.ac.uk. For more information on IP Publishing, visit www.ippublishing.com.

RG

Research news

The news section of *Research Global* is brought to you by **ResearchResearch** – a leading publisher of news and funding opportunities for researchers. With editorial teams in London, Washington DC, Sydney, Brussels, Stockholm and Amsterdam, ResearchResearch provides a comprehensive source covering research funding, policy and management. It gives research support staff and principal investigators the tools they require to make their jobs easier and increase their research income. More than 200,000 researchers and policymakers at universities, research establishments and government departments world-wide subscribe to their online services. ACU members can sign up for a free three-week trial to the online service. For further information contact **Thérèse Claffey** on +44 (0)20 7216 6513 or at tc@researchresearch.com.

Australians publishing more, but not patenting

(First published 19/04/2005)

Although Australia generated almost 50 per cent more scientific and technical articles in 2003 than in 1999, the intensity of Australians filing US patents has fallen, reports *Australian Biotechnology News*.

According to the recent 2004-05 'Innovation Report: Real results Real jobs' – 53 patents per million of population were granted in 2003 compared to 54 patents per million in 2001. This represents only 50 per cent of the OECD average, the report said. *Australian Biotechnology News* said spending by the business sector on R&D has increased marginally from 0.72 per cent of GDP in 2000-01 to 0.79 per cent of GDP in 2002-03. This is over 40 per cent lower than average OECD spending.

Public spending on R&D rose to 0.78 per cent in 2002-03, around 20 per cent above the OECD average. Venture capital investment also increased from 0.12 per cent of GDP in 2000 to 0.20 per cent in 2001, bringing spending into line with the OECD average.

Namibian research centre becomes SADC institution

(First published 12/05/2005)

Namibia's Gobabeb research and training centre has been inaugurated as a Southern African Development Community centre of excellence, reports *The Namibian*.

Researchers and scholars from SADC member states are now able to visit Gobabeb to conduct research or undergo training in environmental research, natural resource management, land management, and desertification.

The Gobabeb centre was designated as a SADC centre of excellence in support of UN conventions on biodiversity, climate change, and combating desertification.

Malaysia to provide USD26m for biotechnology research

(First published 05/05/2005)

The government of Malaysia has announced it is setting up a USD26 million fund to support biotechnology research and development, reports *SciDev.net*. The money will in part be distributed by the newly formed Malaysian Biotechnology Corporation. This forms part of Malaysia's nine-point strategy for boosting biotechnology in the country.

EU and South Africa to sign S&T agreement

(First published 05/05/2005)

Europe and South Africa are due to strengthen co-operation in science and technology when they sign the European-South Africa Science and Technology Advancement Programme (ESASTAP) later this month.

ESASTAP is due to run for two years and will involve workshops, conferences and developing websites.

Nigeria told to support sustainable energy research

(First published 12/05/2005)

An international power systems expert has called for Nigeria to take part in ongoing research work on sustainable energy sources instead of becoming an end user of technologies that are poorly suited to the country's needs, reports *This Day*.

James Momoh added that he believes Nigeria has the required professionals to meet its development needs, but that existing systems should be modified to appreciate and adequately reward excellence.

Momoh, a former director of the National Science Foundation in the US, also said that the federal government should take advantage of international conferences where new technological ideas are shared and run with these ideas. Momoh was in Nigeria to invite professionals to the sixth international conference on power systems operation and planning to be held in Cabo Verde.

Pakistan science council to attain autonomy

(First published 12/05/2005)

The government of Pakistan has introduced a bill to make the Pakistan Council for Science and Technology (PCST) wholly autonomous, reports *SciDev.net*. The independent council will advise the federal government on science policy, act as a forum for leading researchers, and identify priority areas for research and development.

Tariq Mehmood, a senior council official, said that the bill would give the PCST autonomy to undertake projects and carry out studies on scientific development, while avoiding bureaucratic red tape.

The council's new independent shape will allow it to promote capacity building in science and technology through national and international collaboration, collect statistics on science and technology, and maintain a directory of the R&D institutions in Pakistan.

Samsung to invest USD35.5m in R&D in India

(First published 14/04/2005)

Samsung has announced that it plans to invest USD35.5 million to strengthen its research and development infrastructure in India over the next two years, reports *The Times of India*.

Samsung intends to pump in 12.5 million for software and hardware development in the country in the current year with the remaining 23 million infused in the next calendar year. The firm's R&D manpower will increase from 200 to 300 this year and then double in 2006.

Queensland announces AUD473m biotech boost

(First published 19/04/2005)

The Queensland government has announced AUD473 million in new funding for the second phase of its Smart State Strategy.

"Smart Queensland: Smart State Strategy 2005-2015" includes more than 200 million in funding over the next four years to build new research infrastructure and support innovation.

It includes three new funds, for which the government will invite the first round of submissions this year:

- 128 million Innovation Building Fund
- 12 million Innovation Skills Fund
- 60 million Innovation Projects Fund

Labour promises GBP6m to build more links with US science

(First published 11/05/2005)

The Labour party has said it will spend GBP6 million on building more bridges between world-class universities and high-tech clusters in the UK and US. The party's business manifesto, launched last month, also reiterated its commitment to raise the UK's total private and public sector spending on R&D to 2.5 per cent of GDP by 2014.

Concern grows over new third stream formula: Knowledge transfer staff say HEIF reforms fail to reward best practice

(First published 11/05/2005)

Suggestions for how to allocate the 2006-07 tranche of England's Higher Education Innovation Fund (HEIF) have come under fire from knowledge transfer professionals, who fear it will focus too narrowly on income from licensing and spinouts.

The proposals, issued by the Office of Science and Technology and the Higher Education Funding Council for England for 'soft consultation' this spring, take into account the scale of knowledge transfer activities and the amount of income universities have secured from external sources.

Under the proposals, up to three quarters of the GBP238 million round would be by formula, with the remainder distributed through competition as in previous rounds. But fears are growing in some parts of the tech transfer community that any formula will unfairly favour universities that have secured the largest amounts of income from external sources such as business, rather than rewarding the best practitioners. There is concern that the formula will be over-reliant on results from the higher education business and community interaction (HEBI) survey, which many in the sector consider to be inaccurate.

The commercial value of consultancy and industrial research contracts is easy to measure, said Joe Barclay, the University of

Oxford's Regional Liaison Director. He wants HEIF to reward activities with benefits that are difficult to quantify, such as the provision of entrepreneurship training and the building up of links between universities and local businesses.

"The formula should recognise the broad spectrum of third stream activities," he said. According to a provisional timetable, formal proposals for the HEIF formula will be released for consultation in June with a deadline for comments at the end of August. The finalised formula for HEIF 3 is expected in October, with funding scheduled to flow from August 2006. **RG**

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Each edition of *Research Global* features current funding opportunities brought to you by the Community of Science (COS). **COS Funding Opportunities** is the world's largest and most comprehensive funding database, containing more than 23,000 funding programmes across all disciplines, worth over USD33 billion. With many flexible searching options, you can easily zero-in on just the funding you need. Please note: if your institution does not have subscription to these services, follow the source link below rather than the COS record link for the opportunities that interest you. For subscription information, please email **Simon Lister** at uk@cos.com.

David Phillips Research Fellowships

Sponsor: Biotechnology and Biological Sciences Research Council (BBSRC)

Deadline: November 12, 2005

Amount: David Phillips Fellowships are normally awarded for a period of up to five years, subject to satisfactory progress. If appointed at a university, the fellow's starting salary will be awarded at point 13 of the RAI scale. The funds awarded will include provision for future salary increases, and an annual revaluation based on government revaluation indices. Where fellowships are held at BBSRC-sponsored institutes, fellows will be employed on the institute's terms and conditions, including pay, superannuation, and National Insurance. As part of the application for a BBSRC David Phillips Fellowship, applicants may seek a grant, up to a maximum value of GBP200,000 over the five-year period of the fellowship, to defray the costs of the research that is to be undertaken including technical support, equipment, consumables, and travel. The grant includes both direct and indirect costs including the National Insurance and superannuation contributions of any staff employed on the grant. The combined revalued salary grant plus the 200,000 (non-revalued) support grant will be the overall cash limit for the fellowship.

Eligibility: Candidates may only submit one application for a BBSRC research fellowship each year. Applications for more than one type of fellowship, or where the type of fellowship sought is unclear, will not be considered. Fellows

must be employed by a UK university, BBSRC-sponsored institute, BBSRC approved academic analogue, or industrial organisation, as appropriate to the individual scheme, for the duration of the fellowship. Applicants must be postdoctoral scientists with no more than five and one-half years active postdoctoral research experience as at 1 October 2004. They should not hold a permanent, or fixed term academic position (or the equivalent in institutions other than universities), nor should they have had an offer of such an appointment prior to the commencement of a fellowship, if awarded. Candidates from countries outside the European Economic Area should note that they must comply with UK immigration and work permit requirements.

Citizenship: Unrestricted

Activity location: United Kingdom

Requirements: PhD/MD/Other Professional

Abstract: Subject to the conditions attached to individual fellowship schemes, fellowships are tenable in any of the areas of biological sciences, biotechnology and related research funded by the Biotechnology and Biological Sciences Research Council (BBSRC). BBSRC David Phillips Fellowships are designed to support outstanding scientists in the early stage of their research careers who wish to establish themselves as independent researchers. In making these awards, BBSRC will be seeking to identify scientists who could be expected to be among the leaders of their generation of bioscientists and where applicants can demonstrate that a BBSRC

David Phillips Fellowship will be of benefit to them, their science, and BBSRC. BBSRC David Phillips Fellowships can be held at any UK university or BBSRC-sponsored institute that is willing to employ the fellow and provide appropriate high quality facilities.

Source link:

<http://www.bbsrc.ac.uk/funding/fellowships/Welcome.html>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=19173>

Study Fellowships for Africans

Sponsor: University of Manchester; Institute for Development Policy and Management

Deadline: Continuous. There are no application deadlines.

Citizenship: Africa

Activity location: United Kingdom

Requirements: Graduate Student; PhD/MD/Other Professional

Abstract: The Institute for Development Policy and Management (IDPM), at the University of Manchester, United Kingdom, hosts a number of study fellows from Africa each year. The centre provides training for career development, including one-year Master's programmes, PhD programmes, and short professional development training. The Professional Development Programmes can also be offered as customised training or in-country programmes on a collaborative basis. Professional Development Programmes are available in the following areas: effective library information systems; effective microcomputer information systems; impact assessment for sustainable development; management services and information systems; human resource management; rural poverty assessment; training for computer trainers; training for trainers; managing NGOs; microenterprise finance.

Source link: <http://idpm.man.ac.uk/idpm/>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=69226>

TDR Research Training Grants (RTGs)

Sponsor: World Health Organization (WHO); Research and Training in Tropical Diseases (TDR); Research Capability Strengthening (RCS)

Deadline: 31 October, 2005

Amount: The following financial provisions may be available through TDR Research Training Grants: The specific provisions on entitlements are set out in the individual Letter of Award; travel tickets between the home country or city of the grantee and the country of study according to the agreed itinerary (if applicable); stipend, or monthly living allowance, to cover accommodation, meals, and incidental expenses when the training is outside the home country or city; a one-time allowance for educational support materials including scientific texts, computer software, and other related material (USD500 for MSc students and 750 for PhD students); acquisition of a computer; tuition fees; support for thesis expenses; examination fees and thesis expenses; limited excess baggage allowance on return from training; health insurance.

Eligibility: Priority is given to applicants from the Least Developed Countries (LDC) as defined by the United Nations, and for applicants requesting local degree registration. Applications from non-LDC countries will be considered only on an exceptional basis. All applicants must have permanent employment pre- and post-training. To achieve gender balance, applications are especially encouraged from women. Preference is also given to applicants under the age of 35 years.

Citizenship: Less Developed Countries (LDC)

Activity location: Unrestricted

Requirements: Graduate Student; PhD/MD/Other Professional

Abstract: The Special Programme for Research and Training in Tropical Diseases (TDR) is an independent global programme of scientific collaboration, established in 1975, and co-sponsored by the United Nations Development Programme (UNDP), the World Bank, and the World Health Organization (WHO). One aim is strengthen the

capability of developing disease-endemic countries to undertake the research required to develop new disease control technologies. In this context, TDR awards, on a competitive basis, Research Training Grants for studies leading to a postgraduate degree, or for acquiring specialised skills. The training may take place in the home country, in another developing country, or in a developed country. Studies must be on one or more of the TDR target diseases: malaria, leishmaniasis, schistosomiasis, lymphatic filariasis and onchocerciasis, African trypanosomiasis and Chagas disease, leprosy, dengue, and tuberculosis, in laboratory, clinical or applied field research disciplines relevant to TDR or national priorities.

Source link:

<http://www.who.int/tdr/grants/grants/rtg.htm>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=21945>

Industry Partnered Clinician-Scientists

Sponsor: Canadian Institutes of Health Research (CIHR); Health Research Partnership Fund (HRPF); University-Industry Programs

Deadline: Continuous. A letter of intent may be submitted at any time. Letter of intent intake deadlines are 15 December, 15 February, 15 May, 1 July, and 1 September.

Upper Amount: CAD861,000

Amount: The programme has two phases: Phase 1 provides stipends for up to six years of support. Phase 2 provides a contribution to the salary of the recipient for up to six years. The value of the stipend for Phase 1 is 50,000 per annum. A yearly research allowance of 3,500 is provided. During Phase 2, CIHR's contribution to the investigator's salary is 50,000 per annum. In addition, CIHR will refund the employer's share of contributions to employee benefit plans in which the institution staff members participate. For the first three years of Phase 2, CIHR will provide a research allowance of 40,000 per annum.

Eligibility: Candidates must be nominated by a medical or dental school or affiliated institution and must secure

the sponsorship of a suitable company before an application can be submitted.

Citizenship: Unrestricted

Activity location: Canada

Requirements: PhD/MD/Other Professional

Abstract: The Canadian Institutes of Health Research (CIHR) is the major federal agency responsible for funding health research in Canada. The Clinician Scientist Award is offered to highly qualified and motivated clinicians that have been identified by a Canadian medical or dental school as having strong potential to become clinician-scientists.

Source link: <http://www.cihr-irsc.gc.ca/e/3412.html>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=52940>

Co-operative Venture for Capacity Building for Innovation in Rural Industries

Sponsor: Rural Industries Research and Development Corporation (RIRDC)

Deadline: Continuous. Researchers and groups interested in getting involved in the Co-operative Venture or applying for funding can contact the programme managers for more information.

Eligibility: The success of the Co-operative Venture depends on participation by a wide range of people involved in rural industries and communities.

Citizenship: Australia

Activity location: Australia

Requirements: Small Business; PhD/MD/Other Professional; Commercial; Government; Non-profit; Academic Institution

Abstract: The Co-operative Venture was established in 2001 by R&D corporations to enhance capacity building in rural industries in Australia. The programme will enhance capacity building by investing in R&D that focuses on enhancing the understanding of learning, improving organisational arrangements to support rural human capacity building, and inspiring innovative farming practices. The Rural Industries Research and Development Corporation manages the Co-operative Venture on behalf of Agriculture, Fisheries and Forestry Australia; Meat & Livestock Australia; Dairy Research and Development Corporation; Land & Water Australia;

Murray-Darling Basin Commission; Grains Research and Development Corporation; Sugar Research and Development Corporation; and Grape and Wine Research and Development Corporation. The Co-operative Venture is unique due to the commitment of its partners to combine their resources, experiences, and information to achieve the aim of enhancing capacity building in rural industries. The Co-operative Venture for Capacity Building for Innovation in Rural Industries will instigate and support learning by farmer and rural communities. Through research and development initiatives initiated by the Co-operative Venture, rural communities will be placed in a position to prosper and grow as Australian rural industry adapts successfully to global change.

Source link:

<http://www.rirdc.gov.au/capacitybuilding/index.html>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=81225>

DBT-TWAS Biotechnology Fellowships for Postdoctoral Research in India

Sponsor: Third World Academy of Sciences (TWAS); Fellowships and Associateships

Deadline: 31 October, 2005 (Anticipated deadline)

Amount: The fellowships will be tenable for a period of one year at a monthly stipend of INR11,500. In addition, the research fellows will receive a house rent allowance and medical coverage for minor ailments only. Fellowship holders are advised to make their own arrangements for more comprehensive medical insurance. The fellowships do not provide any support for family members. A contingency grant of 20,000 per fellowship holder per annum will be provided to the host institute or laboratory in India for study tours undertaken within India in the interest of his or her research work or for the purchase of study material. The cost of international travel (economy class and shortest route) will be met by TWAS.

Eligibility: To be eligible for these fellowships, candidates must meet the following criteria: Maximum age 40 years;

Minimum qualification requirement is a PhD in bioscience or biotechnology; Candidate can provide evidence that he or she will return to his or her home country upon completion of the fellowship; Nationals of a developing country (other than India); and

Regularly employed at a research or teaching institution in his or her home country and holds a research assignment in this country.

Citizenship: Less Developed Countries (LDC)

Activity location: India

Requirements: PhD/MD/Other Professional

Abstract: The Department of Biotechnology (DBT) of the Ministry of Science and Technology, India and the Third World Academy of Sciences (TWAS) have instituted a fellowship programme for foreign scientists from developing countries who wish to pursue postdoctoral biotechnology research in India. The fellowships will be tenable at key biotechnology research institutions in India. The fellowship holder should not take up other assignments during the fellowship period.

Source link:

http://www.ictp.trieste.it/~twas/hg/DBT-TWAS_Postgrad.html

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=87833>

Research Project Grants

Sponsor: Leverhulme Trust

Deadline: Continuous. There are no closing dates for the submission of an outline application.

Amount: The grants scheme offers grants of up to GBP15,000 for up to one year, grants up to 250,000 for one to three years, and grants between 250,000 and 500,000 for up to five years. (There is a separate announcement for awards at the 500,000 to 1.25 million level.) Eligible costs are as follows: The salary of a research assistant (or research assistants) to be paid specifically to work on the project is eligible. The stipend of a graduate (research) student or students at the base rate for Research Councils or for the Arts & Humanities Research Board is

allowable. The costs of teaching replacement are available. To apply for replacement teaching costs, applicants need to be currently employed full-time on a continuing basis by their eligible institution. Associated costs of up to a maximum of 25% of the total budget may be covered. This percentage is a maximum and not a target.

Eligibility: Eligible institutions are as follows: Universities and other institutions of higher and further education in the United Kingdom may apply. Joint applications from more than one institution and applicant are welcomed; however, one institution and applicant must be designated as the lead, having undertaken to be responsible for administering the grant if awarded; Registered charities in the United Kingdom are eligible; and Institutions or organisations of similar status in less developed countries are eligible where, in the opinion of the Leverhulme Trustees, the provision for research funding is seriously limited. Grants are made to institutions under the name of an individual (the principal investigator), rather than directly to that individual.

Citizenship: Less Developed Countries (LDC); United Kingdom

Activity location: Less Developed Countries (LDC); United Kingdom

Requirements: PhD/MD/Other Professional; Nonprofit; Academic Institution

Abstract: Divided into three types according to size and scope, Research Project Grants awards are principally for the salary costs of a researcher or researchers, to work on a specific and discrete research project proposed by the applicant. The aim is to enable established scholars at eligible institutions to employ a research assistant, or research assistants, and to meet modest direct support costs for a specific piece of novel and significant research. The principal purpose of the application will be to pursue a research project rather than to fund a particular individual or a particular post or posts. The trust supports research in all fields except social policy and welfare; medicine; and school education.

Source link:

http://www.leverhulme.org.uk/grants_awards/grants/research_project_grants/

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=31289>

Travelling Fellowships 2004

Sponsor: Stapledon Memorial Trust

Deadline: October 31, 2005

Amount: The fellowships cover the cost of travel overseas and some internal travel for the fellows but not families.

Maintenance is not normally paid since fellows are expected to be paid their full salary while overseas; exceptional circumstances may be considered. Fellows are normally appointed for period of three to six months, but applications for shorter or longer periods will also be considered.

Eligibility: The fellowships are primarily intended for United Kingdom and Commonwealth research workers in agricultural science in the 30 to 45 age group. Consideration will be given to older candidates.

Citizenship: Commonwealth

Activity location: Commonwealth Requirements: PhD/MD/Other Professional

Abstract: The Stapledon Memorial Trust Travelling Fellowships support research and development in the areas of grassland and grass-related animal production, including the social, economic, and environmental implications. It is intended that fellows should have the opportunity to visit one or more countries of the Commonwealth for the purpose of studying a particular problem connected with grassland. Consideration will be given to support visits relating to grassland research and development, and to visits concerning information on more practical aspects of grassland production and utilisation. Support will not be given for attendance at conferences.

Source link:

<http://www.iger.bbsrc.ac.uk/stapledon/stapledon/index.html>

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=22215>

Visiting Fellowships in Canadian Government Laboratories (VF)

Sponsor: Natural Sciences and Engineering Research Council of Canada (NSERC); Scholarships and Fellowships; Fellowships

Deadline: Continuous. There are no deadlines for application to this programme; applications are processed and reviewed as they are received. Decisions are announced up to three months following receipt of complete applications.

Amount: CAD40,800, plus travel expenses. The fellowship may be renewed for a second and possibly a third year.

Eligibility: Applicants must hold a doctorate in the natural sciences or engineering, or expect to complete one from a recognised university prior to taking up the fellow-

ship. Applicants should not have received their doctorate more than five years prior to the date of application. The programme is open to all regardless of citizenship; however, two-thirds of the fellowships will be awarded to Canadian citizens or permanent residents.

Citizenship:

Unrestricted

Activity location:

Canada

Requirements:

PhD/MD/Other Professional

Abstract: This programme provides promising young scientists and engineers with the opportunity to work with research groups or leaders in Canadian government laboratories and research institutions. Fellowships are tenable in the following Canadian government departments and agencies (some changes may occur to this list):

Agriculture and Agri-Food Canada; Canadian Food Inspection Agency; Canadian Conservation Institute; Canadian Space Agency; Environment Canada; Fisheries and Oceans; Health Canada; Industry Canada; Communications; National Defence; National Research Council of Canada; Natural Resources Canada; Natural Resources Canada; Canadian Forest Service; Parks Canada; Public Works and Government Services Canada. Funds for these awards come from the participating departments and agencies; NSERC administers the programme on their behalf.

Source link:

http://www.nserc.ca/sf_e.asp?nav=sfnv&lbi=3d

COS link: <http://fundingopps.cos.com/cgi-bin/getRec?id=20980>

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Global Research Management

Research management has a genuinely global dimension. An increasing proportion of research involves international collaboration, or is funded by international funding bodies. It is vital that stakeholders approach their endeavours with a degree of common understanding. And, of course, many of the issues that researchers seek to address have global implications. It is critical that results are disseminated or exploited on a world-wide scale, and according to common standards. A global network is the only way to achieve this goal.

Why you should join the ACU's Global Research Management Network

The network combines regular information, analysis and networking opportunities to keep you informed and connected to research management activities throughout the globe. It provides a structure relevant both to practitioners in the developing and developed world and is based around five main strands of activity:

Research Global Magazine

Based on the ACU's successful *Research Opportunities* magazine, *Research Global* will bring news, articles and funding information to members three times per year.

Free Academic Journal

To help provide a more theoretical background to the research management debate, all members of the network will receive a free subscription to the *International Journal of Technology Management & Sustainable Development*. The journal provides analysis and studies from a range of countries.

Benchmarking & Good Practice

The network will seek new ways to compare good practice and performance in a constructive manner – helping members to identify policies for implementation in their own work.

Electronic Updates

Those members registering an email address will receive two regular briefings – one covering news and policy items, the other concerning new publications and forthcoming events.

Events & Seminars

Given the global nature of the network, opportunities for face-to-face contact will be limited. The network will, however, stage a range of conferences and seminars aimed at bringing international practitioners together. An early example was the ACU's joint sponsorship, with the Southern African Research & Innovation Management Association (SARIMA), of the 'Research as an Agent for Transformation and Development' conference held in Cape Town in May 2004.

To obtain a registration form to join the network, please visit www.acu.ac.uk/researchmanagement and click on 'Join the Global Research Management Network'. For more information, email resman@acu.ac.uk.



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