



The Association
of Commonwealth
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RESEARCH GLOBAL

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Building capacity

Professionalising research management in the UK

Research integrity in the international context

Knowledge mobilisation: turning research into action



Research Global

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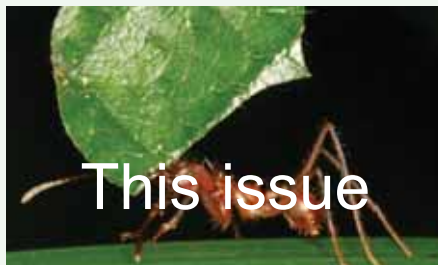
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This issue of *Research Global* focuses on capacity development in higher educational institutions' (HEIs) research management and administration. This is an important issue in both developed and developing nations, especially in Africa, South America and Asia.

The capacity of HEIs to effectively and efficiently provide support to the research enterprise within the institution is critical to the achievement of the HEI's academic, research, knowledge mobilisation, and community development missions. Our researchers provide information, advice and support essential to community and public agencies that improve the quality of life in our communities, transfer new knowledge and technology to industry to improve their efficiency, provide new services and goods for our economies, and educate the next generation of highly-qualified people. Our researchers are often the vanguard of inter-institutional collaboration and international development.

In a period of economic uncertainty, investments in capacity development, especially the hiring and the professional development of research administrators, are often the first lines to be reduced. We all recognise that our budgets ought not to be exempt from fiscal belt-tightening. Yet, this period of economic uncertainty is also an opportunity – an opportunity to reassess how we build and maintain research capacity and research administration capacity in our institutions.

We need to begin to assess what is needed to support the research enterprise in HEIs in the digital age. For the most part, we (research administrators and our institutions) employ analogue approaches in an increasingly digital, mobile and social-networked world. This Web 3.0 world demands that research institutions, researchers and research administrators think differently and bring new and different skill sets to research and research administration.

I am unsure of what research administration in the 3.0 world will look like – except that it will be much more nimble, connected, focused on the end user (or client), creative,

uilding for achievement

innovative, and virtual. The research administrator of the future will incorporate the best traits of the past (being intelligent, articulate, listening, responsive) with the attributes expected by our 'millennial' researchers and our research partners in government, community, industry and internationally.

As we look towards the 3.0 research administration environment, we continue to need selective and targeted investment in research management capacity development. Such investment will enable HEIs to achieve their primary mandates:

- i. The provision of high-quality education and advanced training at undergraduate, graduate and postdoctoral levels.
- ii. The creation of new knowledge and the revisiting of existing knowledge and paradigms of thought.
- iii. The mobilisation of new knowledge to inform economic, social and public policy, to improve the quality of life of our communities – locally and internationally – and to advance the competitiveness of our private sector partners, where most of our graduates find employment.

This will also enable our HEIs to retain and attract the very best researchers in the world.

Our research administrators need education, training and professional development to effectively and efficiently serve our students, faculty, public and private sector partners, and senior administration. Investment in – not spending on – targeted professional development, skills training and education will improve our research and educational endeavours. Investment in the effective use of new social

media for communication with researchers and as training media will enable more effective delivery of programmes and support to researchers. Investment in pre-award and post-award research administrators will improve our success rates and our management of research funding. Investment in administrators who are knowledgeable in human research ethics, animal care and health and safety will increase the public's trust in our institutions and researchers. Investment will make our institutions more accountable and transparent.

But investment in research administration should not be limited to those areas most commonly associated with bureaucracies. Investment in education, training and professional development needs to extend to the faculty members and scientists who conduct research, and their trainees – undergraduate and graduate students, postdoctoral fellows, and research associates. These individuals are also research managers and, by investing in them, we will improve our institutions' research and research management capacity.

It is not a matter of spending more or doing more with less. It is a matter of doing things better – using our existing capacities and the new 3.0 digital media to (re)train highly-qualified research administrators, whether they are in central administrative offices, faculties or departments, laboratories, or the field, conducting human clinical trials and research.

Our contributors address these and related critical issues in capacity development. Their insights will enable us and our institutions (and our research partners and communities) to be transparent, accountable, and effective. **RG**

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Changing the paradigm: a strategy for creating Latin American research and research management systems

Lawrie Robertson and Rafael Alfonso Cristancho give an overview of research management systems and capacity building in Latin America.

When delegates assembled in Liverpool, UK, for the 2008 International Network of Research Management Societies (INORMS) Congress, every populated region was represented, with one major exception – South America. Why were South American research managers not represented?

Problem: lack of sustainable institutional research systems

In other regions, most notably Southern Africa, sponsors, governments and leading institutions are recognising the value of local research and management capacity building – a research system. They understand that parallel development of research and infrastructure is key to addressing locally-defined research priorities and gaining global respect. *Research Global* and INORMS were created in part to facilitate the transition from traditional one-way directed research interventions to relationship and system building.

What characterises this system? It is a new local capacity committed to continuous skills development built via collaborative strategies. This partnership blends the resources and research expertise of developed nations with the unique cultural understandings and talents of those living where the research takes place.

Why have collaborative models for research and research management system building in most of Latin America lagged behind other emerging regions? How could the current paradigm be transformed from fragmentation to collaboration?

Despite Latin America's abundant talent and basic resources, expanding educated workforce and desire to develop potential, there has been a reluctance to employ regional approaches to build sustainable research systems. Language, brain drain, fractionalised proliferation of insti-

tutions that are primarily education-focused and an environment of inter-institutional competition have made continent-wide collaboration difficult. Flawed or non-existent intellectual property protection has also discouraged sponsors, especially pharmaceutical firms, to invest more in basic research and locally-defined priorities.

In many parts of Latin America, research and its management are treated as secondary to educational capacity building. They are not viewed as trained specialties or valued as central components of a vibrant professional education system. A lack of incentives and recognition systems tends to discourage talented researchers and managers from pursuing research as a career path. Returning home seems less attractive to externally-trained scientists with a strong research interest. Those returning are often expected to be fully occupied by academic and administrative duties. Generally, little institutional support is provided for building a research portfolio.

Creating a sustainable research system requires research to be viewed as an important faculty task. It needs to be part of an institutional strategy that builds revenue reserves for local research capacity. However, with minimal government investment or institutional incentives, many Latin American institutions have come to view research projects as one-time events representing additional burden, rather than as system building blocks.

Externally-defined projects and priorities have resulted in Latin American institutions having little history of sustained inter-institutional partnering or of building consortia to initiate research focused on regional challenges. When inter-institutional or cross-border collaborations do occur, they are generally tied to a specific project and most often initiated by US or European institutions.

With only a few elite institutions and 'centres of excellence' spread across an imm-

ense region of 570 million people, there are broad disparities in the capacities and resources to achieve any paradigm shift. Additionally, only a few institutions have hired professionally-trained managers who focus exclusively on research management or are recognised by researchers as partners in assuring effective, compliant, and adequately supported research administration. So where do we begin?

A model for research capacity building, talent retention, and global competitiveness

Overcoming existing barriers will require trust building initiated by a small, select group of leading institutions. Their stature positions them to produce the 'proof of concept' models needed to transform assumptions (the way things are and are done). Their leadership can show the way to new incentives and reward systems. If built systematically and founded upon common interests by visionary leaders, a new regional paradigm can be created. Sustainable research capacity building must be linked to the creation of a professionally-managed research infrastructure.

We propose that this change be initiated by a gathering of five to six leading Latin American institutions – institutions with solid research reputations and professional training programmes in place. The proposed pathway includes the following steps:

1. Identify common research interests and shared benefits to create a consortium of five or six willing institutions having the requisite leadership, shared interests, core competencies and resources needed to build a collaborative research system.
2. Convince sponsors that creating sustainable local research systems leads to both a partnership of equals and more productive results by:
 - a. agreeing to permit institutions to invest a portion of project overheads in facilities, equipment, and management infrastructure

- b. setting aside funding for high-quality investigator-initiated research projects of importance to that region
 - c. funding pilot projects
 - d. sponsoring regional conferences
3. Establish 'research faculty' appointments in these institutions to attract and retain the best local talent.
 - a. Reinforce the new approach by recognising and rewarding excellence in research, changing promotion criteria, and offering start-up support to free time for research.
 - b. Make pilot funds available on a competitive basis for both proof of concept data and small investigator-initiated research projects.
 - c. Create mentoring systems and faculty exchange programmes.
 4. Leverage external funding to build long-term sustainability by creating fund reserves through efficient sponsored research management and investments in facilities and equipment.
 5. Build sponsor confidence by working towards necessary legal reforms in the areas of intellectual property protection, creation of highly-trained ethics/institutional review boards, and ability to work regionally.
 6. Create networks for ongoing professional development and support systems for researchers and their managers.

Benefits of sustainable research system capacity building

Why should institutions engage in the parallel development of a sustainable system to support research and research management in Latin America?

The logic is clear; the benefits are many. A systemic approach builds and supports an environment attractive to talented researchers. Consortia and institutional recognition systems can lead to a core mass of respected Latin American researchers able to do what they do best, while supporting local professional education opportunities. The approach can provide the necessary mass of core competencies and support systems needed to be competitive for larger projects that can cover infrastructure and support costs. Support systems can create enhanced training and development opportunities for the institution's graduate students ('growing your own').

Regional sharing and mentoring can enable a group of smaller institutions to create niche expertise. Over time, Latin America can become known for research conducted within a culture of compliance, in up-to-date facilities, by effective management, and by scientists with a proven record of accountability in producing and publishing on-time results. The result will be institutions that are both globally competitive and more in control of their destinies.

Next steps towards implementation

What should be the next steps in building a Latin American system of sustainable research and research management system capacity?

Transformation starts with a few visionary institutional leaders willing to work collaboratively to identify the region's challenges, opportunities, and appropriate system building strategies. Based on existing core competencies and collaborations, they should enlist institutions willing to plan a strategy which demonstrates what is possible within the region's culture, norms and values.

Using the model formulated by the University of Cape Town in South Africa, larger institutions could agree to both subcontract to and mentor smaller neighbouring institutions. Mentoring would include parallel attention to sustainable research and research management capacity building. Participating institutions would also agree to explore regionally-appropriate strategies for creating a research career pathway which supports larger educational objectives while attracting and retaining the region's top research talent.

Sponsor cooperation will be essential in supporting a series of steps leading to transformation from one-off projects to appropriately resourced system building. Working with national and international pharmaceutical companies, lead institutions can develop a capacity to perform clinical trials using the International Conference on Harmonisation-Good Clinical Practice (ICH-GCP) standards, thereby providing funds to invest in sustainable system building.

Transforming research management will require a regional approach to training. Delivered in the home language by primarily Latin American instructors, this foundational training could be patterned after the successful Puerto Rico Research Manager 101 and SARIMA fundamentals courses. With INORMS member

societies' assistance, a combination of annual regional conferences and formal train-the-trainer sessions could be held. This professional development content could then be replicated throughout Latin America, with follow-up sessions sponsored by government or private institution support.

To sustain access to training, participating institutions could designate travel awards for key meetings and professional development conferences to faculty, staff, and the most promising students. Regional meetings will foster the creation of peer networks, support systems, expert contacts, reputation building and employment opportunities, and the foundation for trusted relationships.

In conclusion, this article seeks to provoke thinking about possible pathways to paradigm change. A change to building sustainable research systems is essential if Latin American institutions wish to be globally competitive and able to direct research to address the region's most pressing needs. Sustainable change depends upon research support infrastructure developing in parallel with institutions' research capacity. Evolving incrementally, this new vision requires a collaborative, systematic approach taken by a few visionary leaders – leaders willing to pursue a new direction for long-term stability. Sustainable strategies need to be led and implemented by Latin Americans, and reflective of Latin America's culture, norms and values. It can be done. RG



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Professionalising research management

The growth of research management in recent years has been well documented. However, a framework for training in the field is yet to emerge. **David Langley** and **John Green** discuss the results of a recent study of 20 English universities.

Universities have evolved into highly complex organisations, striving to service the external demands of public and private paymasters and balancing the needs of their internal communities. Externally-sponsored research activity, in particular, has gained increasing prominence in recent decades, as universities have sought to increase (and diversify) revenue streams and reduce dependency on block government funding for research.

Research management has developed in line with the trends affecting research itself. Universities that are successful in securing research funding are required to fulfil a range of obligations; research grants and contracts are heavily audited, rigorously monitored and often tied to tightly-negotiated milestones and deliverables. Increasing breadth and complexity in the research portfolio requires broad yet specialist skills and knowledge to deliver effective support. Activities that might once have been left to academic researchers are now more closely integrated with strategic corporate objectives and require dedicated professional support. It is at this interface, between academic research and corporate management, that research support units find themselves. With such demands, it is surprising that the UK higher education sector is typified by a lack of professional training, qualifications and clear career progression within research management.

On 30 March 2009, a conference was convened at Imperial College London, where results of a study entitled 'Professionalising Research Management' were shared with an audience of research management leaders, academics and funding organisations. This study, funded by the Higher Education Funding Council for England (HEFCE) and the Medical Research Council, aimed to evaluate two broad objectives: first, to identify the demand within a rep-

resentative group of 20 English universities for the development of a professional framework (of training) for research management; and, second, to explore approaches to addressing any identified demand.

Through interviews with leading figures from the sample chosen, the study explored how research management has developed, how it has been shaped and exists today, and how staff involved in supporting research are recognised by functional peers and academic customers. An understanding of the context helps us comprehend how demand for a professional framework might be addressed. This study looked to understand whether research support is as clearly defined, structured and recognised as other support departments, or whether there are differences across administrative sectors that require consideration when formulating a professional framework that could deliver appropriate training.

While identifying whether demand exists for 'professionalising' research management was a broad objective of this study, more specifically this research aimed to assess the strength of that demand and to establish whether or not consensus of opinion existed in how professional training might be delivered.

The context in which research is managed

19 of the 20 universities visited in this research were found to have a dedicated, published research strategy. However, confidence in the effectiveness of having a research strategy was at best inconclusive and at worst very low. Only four of the institutions interviewed felt that they had achieved their strategic research objectives, with most others indicating that their research strategy was either under review or likely to be reviewed in the near future. It was also found that only half of the universities in the sample had a dedicated strategic research

budget that could be deployed ad hoc to support strategic objectives. Moreover, in those institutions where a discrete strategic research budget had been established, the amount of money available varied considerably. While it is not possible to draw conclusions as to whether the existence or size of a strategic research budget has an impact upon the effectiveness of strategy itself, certainly those institutions with a strategic budget and a clear process for devising strategy were more confident that their strategic aims had been achieved.

Structure

The findings illustrated areas of consistency and variation in the organisation of research management. Every institution interviewed had dedicated academic and administrative leadership for research support through a pro-vice-chancellor for research (or equivalent) and a director of research support (or equivalent). The relationship between these roles was seen as important in balancing the strategic and operational direction for the research support team; it was clear that the priorities were set by either of these two roles: half of the institutions in the study felt that research support priorities were set by the PVC, with the other half indicating that priorities were set by the director of research support.

Reporting lines for the director of research support vary greatly across institutions. In most instances, the director of research support reported directly to an administrative head (e.g. director of finance or registrar) with a dotted line to a pro-vice-chancellor. Such triangulation of administrative and academic leadership appeared to place great emphasis on strong working relationships and clear understandings of responsibilities. Without strong academic leadership, research support units tended to become isolated from academics and, indeed, five institutions indicated that they felt that the role of research support was not understood by their academic communities.

The size and shape of research offices provided similar evidence of differences in approach

across different institutions. More than half (11) of the sample institutions employed fewer than 40 staff within their research office, with three institutions employing over 100 staff within research management (see Figure 1). The lack of consistent office structures, and roles and responsibilities of staff engaged in research management meant it was impossible to propose the ‘right number’ of staff needed by an institution, a question that was regularly asked during our visits.

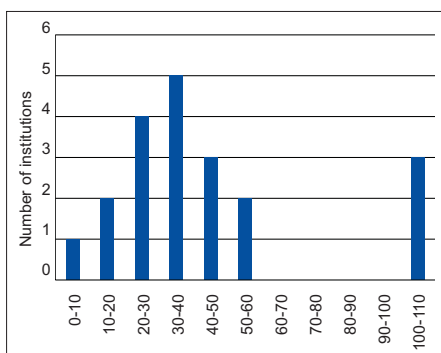


Figure 1: Staff numbers in research offices

Research management staff are generally organised into either central or devolved teams. 14 institutions operate mainly centralised support services, while four institutions indicated that they had implemented highly devolved structures, although these institutions still retained some aspects of central support aligned corporately. The remaining universities were hybrid structures. Across nearly all respondents, research management was said to have experienced structural change or was likely to be reviewed in the future. How best to organise research management is clearly a topical issue within the sector.

Interviewees at eight institutions felt that research management – the function that they worked within – was not considered a professional activity in the same way as HR or finance.

Training and the demand for a professional research management framework

18 institutions indicated that they had a dedicated budget for staff training and development within the research office, and 17 claimed to have used external training provided by organisations. However, the majority of training was delivered internally and relied on the knowledge of existing staff (see Figure 2).

Almost three-quarters of the sample (14)

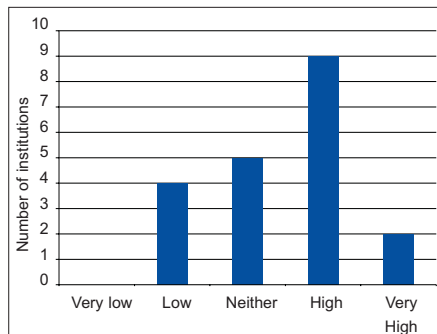


Figure 2: Level of in-house training provided

felt that there was an opportunity to develop a professional research management framework. Nearly all institutions were prepared to pay for training that met the needs of their staff and organisation. Comments from interviews indicated, however, that there were both positive and negative aspects to professionalising research management and this was stressed by most respondents. A number of institutions highlighted concerns that a profession might exclude potential recruits and create a barrier to entry.

Taken in the context of the inhomogeneity across the sector, these findings are not surprising and reflect a profession struggling to create an identity. The difficulties and duplication of activities that this caused was referred to by one interviewee:

‘There is huge frustration that we work in an educational sector, and we are professional people, but we have been left to just muddle through. The waste in the sector must be huge.’

In general, the current external training provision was thought useful in enabling staff to be trained quickly and efficiently. However, difficulties in finding courses that were appropriate for specific institutions at a suitable level, at a suitable time and at a suitable price were chief gaps in service delivery. The provision in the core area of research management (as opposed to specialisms such as knowledge transfer) is very patchy, with no coherence or consistency in the quality or scope of the courses.

The most common view of the shape of accreditation for research management was that any qualification must be of high quality and pitched at a level that caught the attention of employers and staff within the sector. As such, the majority of institutions indicated that accreditation should take the form of a postgraduate qualification which gave staff a depth and breadth of theoretical understanding across the sector. As interviewees stated:

‘An accreditation would need to be achieved over time and with experience. You should not just be able to walk in off the street and pick this certificate up.’

Conclusions

Research, and the management of research, has assumed greater importance within the university sector in recent years. However, research management has developed in an organic fashion. Reporting lines, structures, roles and responsibilities differ widely from institution to institution. It is this disparity which leads to two conflicting issues. Firstly, such growth has led to confusion surrounding the role of research support – to the extent that staff are not sure if they are part of a clearly defined community, let alone a professional one. Secondly, though there is consensus on the need for a professional, accredited framework to manage and develop research support, the mechanisms through which it might be delivered are less clear.

It is clear that there is demand for a professional, respected and flexible mechanism for delivering high quality training in research management. Equally, the current offerings are not holistic enough to develop the skills needed by staff, nor do they have the right level of flexibility or availability. It is the huge variation in structures and role across the sector that creates difficulties in building a professional framework broad enough to cater for all needs. A broader, more comprehensive framework is required that engages with current providers and senior staff within the sector to develop good practice, greater consistency and a network of research management professionals. Rather than spending money on retrospective audits, universities and funders need to support this as a possibly more long-term investment, which could deliver significant and lasting value in return. RG

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The full report is available at www.professionalresearchmanagement.com/results.html

Setting IP policies for tech transfer offices in the Arab World

Prabuddha Ganguli gives a perspective on technology transfer and IPR in the Arab World.

The Arab World during the period 750-1258 was the crucible of scientific thought and technological applications, with scholars converging in the cultural hubs of Damascus and Baghdad to study, work and participate in furthering the limits of human understanding. Interestingly, the early Abbasid Caliphs – most notably Al-Mansur, Harun Al-Rachid and Al Ma'mun, who reigned from 754 to 833 – embraced science as a state's defining policy, ushering in a golden era of Arab-Islamic civilisation, recording significant achievements in every field of science including mathematics, astronomy, medicine, optics, and philosophy.

During the last few decades, the Arab World has been a major consumer of the benefits of science and technology (S&T) without appreciably participating in its development. Wealth realised from its natural resources has fuelled the economy without significantly enhancing its human and infrastructural resources in S&T. This has resulted in a technology-rich user ecosystem without adequate intraregional capabilities to absorb meaningfully, adapt or further develop the acquired technologies.

Setting up national policies for capability building

It is imperative that governments in the Arab World embark on a technology development programme to ensure that the region leapfrogs from incubation to adulthood. Symbiotic relationships between productive knowledge centres working in networks would ensure the enrichment of national educational and innovation systems, maximising value creation and realising tangible financial benefits from their intellectual assets.

To sustain creativity and innovation, devel-

oping a sustainable critical mass of human resource in S&T is necessary, both for the adaptation of acquired technologies to local requirements and the evolution of new technologies and their transfer to the marketplace. The establishment of national intellectual property rights (IPR) policies must also be seen as an integral part of a nation's industrial, S&T and human resource development. Such symbiotic relationships would pave the way to facilitating a national innovation process which would contribute to the overall social good. This requires a paradigm shift in the value system within governments, academia and industry.

The Arab science and technology programme 'IZDIHAR' provides a comprehensive

framework for a pan-Arab initiative.¹ Figure 1 is a summary of the proposed framework.

IPR as an integral part of national S&T and innovation policy

A national IPR policy should set out transparent guidelines and benchmarks for ownership, and clear provisions for 'fair use' of IPRs, including protection, transfer and commercialisation. At the same time, it should give government appropriate privileges on the granted IPRs, so that they can be utilised in times of national emergency and/or for the government's own purposes, with fair benefits and returns to the IP owners. Further, the policies should promote competition and structure statutory and operative frameworks for enforceable actions against anti-competitive behaviour.

The governments in the Arab World will

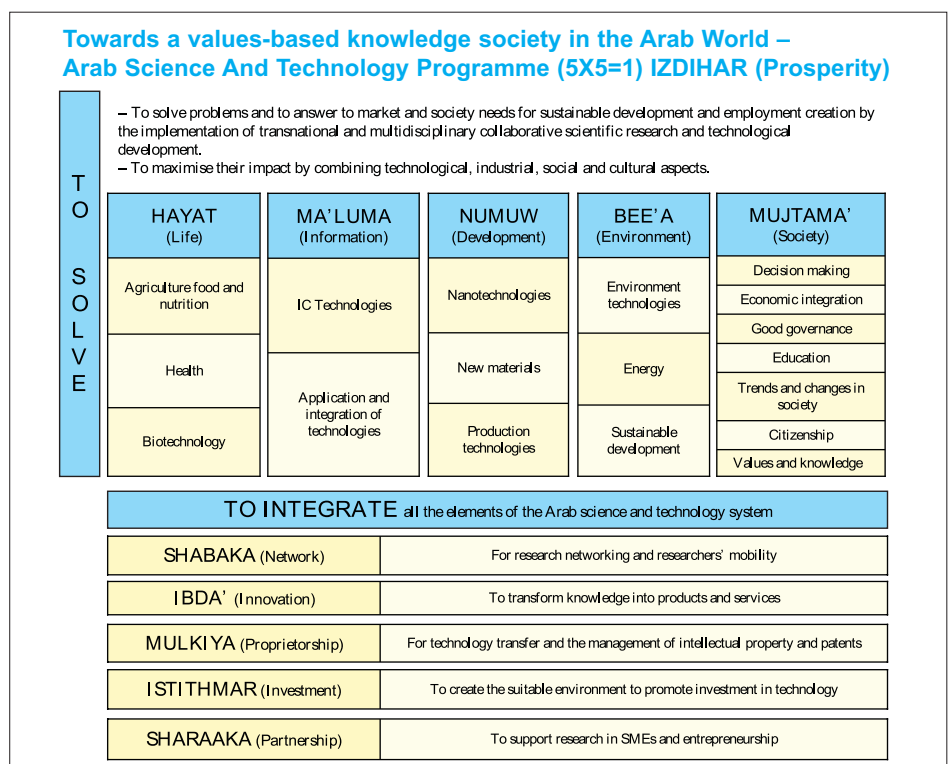


Figure 1: IZDIHAR – proposed pan-Arab initiative for S&T

have to direct actions such as the setting-up of laws and the creation of frameworks to link academics with specific industries operating in the region. Some of the steps should include:

- formulating comprehensive national IPR policies and ensuring the creation of legal frameworks for the institutional management of IPR and governing matters related to funding, ownership, and benefit-sharing of IPR created through public-private partnerships (PPPs)
- initiating a process for institutional IP policy formulation and implementation
- training personnel in industry and academia to manage IPR in the region, so as to build a critical band of 'IP literates' and 'IP professionals' to operate as networked communities of IP good practice
- access to and training in the use of patent information databases, for effective use of patent information in project planning and execution
- creating a consortium of funding agencies in the region which would access technologies developed in universities and fund IPR-related activities
- setting up collaborative projects, with the responsibility for managing the created IPR resting on the industry partner, thereby creating direct clientele and a pipeline for transfer of the technology generated in academic institutions
- creating operative regional IPR facilitation centres, run by an executive committee consisting of key stakeholders drawn from universities and industry in the region. In due course, these centres would become the focal points for IPR facilitation activities in their respective regions

Key elements of an institutional IPR policy to facilitate technology transfer

Any institutional IPR policy should cover (among other items):

- modes of innovation in the institution
- guidelines for ownership of IPRs, obligations of confidentiality and disclosure
- modes for IPR transactions that include licensing, assignments, direct sell-outs, joint ownerships, etc

- framework and guidelines for drafting agreements such as: employee contracts, non-disclosure agreements, memoranda of understanding (MOUs), research contracts, work on hire, work for hire, the conditions under which one would be permitted to have the name of the institution used (especially in activities involving other institutions), sharing of data, transfer of materials (biological and non-biological), transfer of knowhow, etc
- guidelines for applying, procuring and utilising funds from diverse funding agencies for collaborative work, consultancy, etc
- conditions for technology transfer, resource sharing and collaboration
- governance of matters related to conflict of interest
- means and approaches to policing and the enforcement of institutional IPR
- modes of technology marketing and business development of innovations
- explicit rules for sharing the revenues generated from IPRs (between the institution and the innovators)
- definition of the terms used in the IPR policy, so that there is no chance of any misinterpretation
- consequences of non-compliance with the institutional IPR policy

Process of setting up IPR policy and technology transfer

The process of setting up an institutional IPR policy needs to be formalised and, once the policy has been finalised, it must have the formal endorsement of the highest authority in the institution. The process may be summarised as follows:

- An office with executive authority must be identified to champion the IPR activities and to be responsible for the development and implementation of the IPR policy in the institution by
 - a. facilitating the R&D dynamics in the institution leading to the creation and utilisation of institutional IPR assets
 - b. linking with other institutional functions to promote harmonious development
 - c. acting as the conduit for interactions with

external funding agencies, industries, etc
d. having the authority to negotiate deals on behalf of the institution

- A formal 'IPR cell' should be established, comprising a cross-functional core team with defined responsibilities and tasks, including drafting the institutional IPR policy, establishing an IPR management committee with a structured channel of reporting/communication, and composing guidelines to be followed in the institution.
- A priority status should be signalled by the head of the institution and/or all the associated key functional heads, such as deans of academics, administration and R&D, to ensure appropriate and adequate resources are allotted to the activity.
- During the process of formulating the IPR policy, the IPR cell should conduct IPR awareness workshops involving stakeholders, so that grassroots-level feedback is obtained at the formative stage of the IPR policy. Such an interactive review process secures buy-in from stakeholders at an early stage, ensuring the long-term workability of the IPR policy.

Conclusions

The management of technology development, the creation of IPR coupled with its effective utilisation, and the transfer of technology are complex issues that have been debated for a long time. Traditional barriers need to be disrupted to create a paradigm in which industry, publicly-funded institutions and government agencies operate in unison, so that one derives more from less and in the process delivers more.

IPR issues need to be addressed with the sensitivity they deserve. The Arab World, having started relatively late in this process, needs to leapfrog and will have to work on a fast track, based on takeaways from global experiences, but will also need to design systems best suited to its culture and society. **RG**

The author was invited to deliver a keynote address at the 4th Annual Conference on Technology Commercialization, 'Technology Transfer, Research and Development (R&D) and IP Commercialization, Policies, and Investment', in Amman, Jordan, 12-13 November 2008. The recommendations in this article were presented at the conference

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1 IZDIHAR (see Figure 1) was outlined in a presentation by Dr Samir Hamrouni, Director of Research & Development at the Arab Science and Technology Foundation (ASTF), at the 4th Annual Conference on Technology Commercialization, 12-13 November 2008.

Growing a collaborative research training partnership with Bhutan

Rod Wissler, Jill Borthwick and Lynda Torrie report on an international capacity building programme.

Senior academics from the Royal University of Bhutan (RUB) and Bhutanese government departments took part in an intensive three-week research management programme that was held at the Queensland University of Technology (QUT), Australia, in April-May of this year.

The programme's initial purpose was to build supervision and research leadership capacity to support the organisational advancement of RUB and its central role in Bhutan's national development.

The programme was funded by the Royal Civil Service Commission (RCSC) of Bhutan, and delivered by expert staff associated with the Australian Technology Network's e-Grad School (eGSA), through the QUT Research Students Centre.

Research training and development: RUB and eGSA

RUB is Bhutan's sole university and operates on a distributed model, with its courses dispersed across ten member colleges located in different regions of the country. The model 'allows for shared planning arrangements, shared staff development, joint curriculum developments, shared costs and efficiencies'.¹

RUB's university charter cites research as one of its dual university objectives, alongside that associated with teaching and learning. The university's intention is to introduce postgraduate research studies in 2012. Accordingly, it is active in addressing the need to grow the staff required to meet this objective.

The eGSA/QUT-based programme met this need for supervisor development and research leadership skills, offering selected Bhutanese staff the opportunity to acquire capabilities to

commence supervision in the lead-up to 2012, and laying a foundation for ongoing, internet-based professional development. In the follow-up to the programme, a number of Bhutanese PhD students will enrol at Australian universities. 20-30 Bhutanese PhD students will enrol at QUT as part of this programme, and they will be jointly supervised by QUT supervisors and their Bhutanese counterparts.²

The rationale for the RCSC's choice of the e-Grad School programme can be found in some noteworthy correspondences between eGSA's drivers and the RUB model with its emphasis on finding ways to deliver resources across a large numbers of sites. In eGSA's case, its origins go back to the five universities in the Australian Technology Network (ATN) agreeing to provide innovative resources to their postgraduate research students, and recognising that the only way to achieve the level of quality to which they aspired was through pooling their expertise. With each of the five universities (Curtin University of Technology, University of South Australia, RMIT University, University of Technology, Sydney, and Queensland University of Technology) located in a different state, factors of distance and time zones had to be resolved in the delivery of resources. The ATN collaboration has led to shared planning, academic governance, curriculum development, and teaching and quality assurance. For the ATN and eGSA, online technology and e-learning have been central to each of these processes. As eGSA has grown – and its user group expanded vastly – the required technology to support it has necessarily increased in sophistication and outreach. This was seen as a powerful model for the future development of RUB.

The eGSA resources are offered in flexible

but mainly online mode; all are designed to promote interactivity between participants, who report that networking with distant peers has been a major bonus for them. In the Bhutan training programme, many participants experienced their first intensive use of online learning resources – a powerful tool for their future work as research supervisors and managers. eGSA's clientele now includes postdoctoral fellows, research administrators and research managers, and the user group has expanded to encompass many other universities, institutions and groups, such as the national Cooperative Research Centres, government and industry.

eGSA provides the framework for students gaining two fully online award-level qualifications. The Graduate Certificate in Research Commercialisation commenced in 2007, and has graduated 58 students to date. The follow-up Master of R&D Management was launched at the beginning of 2009 and already has international as well as Australian enrolments.

Supervisor development and today's research students

The traditional concept of supervision involves an experienced academic helping the research student to complete a high-quality research project, culminating in the award of a PhD. However, in today's employment-conscious global and electronic environment, increasing responsibilities are being assigned to supervisors and administrators working with research students. The ability to innovate, work in research teams and lead them, and be an entrepreneur are just some of the abilities typically expected of today's PhD graduates by governments and employers.

Consequently, the programme tailored for the Bhutanese contingent drew on eGSA resources that inform the cluster of responsibilities that go with the supervisor role, as described in the next section.

The Bhutanese contingent and the programme

The contingent consisted of highly-qualified professionals occupying senior roles in RUB, the Bhutanese RCSC and its ministries. Of the 12, ten held doctoral qualifications from major universities in Europe, the US, Australia, Asia and the UK. Two are in the final stages of completing PhDs in Australia. Their discipline areas were diverse, including the natural sciences, the environment, business and teacher education. The positions they held spread across the states and provinces of Bhutan, where they were variously deans, chiefs, and directors in their different workplaces. The one woman in the group held a PhD in Botany and was Dean of Academic Affairs at her RUB college. Their ages ranged from the late 30s to 55.

The three-week programme was led by Professor Rod Wissler, Dean of Research and Research Training at QUT, who is also the Chair of the eGSA Board. In line with the programme's aim of developing supervision and research leadership capacity at the RUB in preparation for their offering of postgraduate research degrees, sessions were designed to incorporate both aspects: supervision and research leadership. This was achieved through framing issues associated with supervision to take in the research leadership development aspect.

Daily sessions included face-to-face contact with presenters working in the eGSA areas with particular relevance to supervisor development and research leadership. Participants also engaged in scheduled sessions in a ded-

icated computer laboratory, working online with eGSA resources.

The structure of the online and interactive Supervisor Solutions programme (www.egradschool.edu.au/whategsaoffe/supportforsu.jsp) served as the spine over the three weeks, with the lecturer who coordinates and moderates Supervisor Solutions providing input on a number of occasions. Further face-to-face input came from ATN staff who work as lecturers, facilitators and online moderators around Australia on eGSA modules and on its two award courses. The presenters found the interaction with the highly motivated and experienced participants to be both rewarding and stimulating. Presenters' reports on their sessions all celebrated the opportunity to work with such a group. A comment from one (Gillian White, University of Technology, Sydney, who presented on research project management) summed it up: 'the engaged group was not afraid to learn or push me to provide more'.

The list of topics demonstrates the broad terrain of the programme:

- Support for supervisors
- Maximising research careers
- Leadership skills and workplace communication
- Research project management and R&D management
- Knowledge transfer
- Entrepreneurship

This wide range of topics gives some flavour of the expectations placed on supervisors in today's universities – and of their students

on graduation. The resources are multi-purpose: they lend themselves to being useful to the research student and to the supervisor for research supervision purposes. They also carry the means for acquisition of further gains in professional and personal skills for the supervisors and research leaders themselves.

Conclusion

The programme was evaluated throughout, using formal and informal methods to establish participants' levels of satisfaction and whether their expectations were being met. The final evaluation was formal in nature, with the feedback received consistent with the high level of satisfaction with all aspects of the programme that had been expressed over the three weeks.

Participants highlighted the substantial skills they had acquired, all in a friendly and well-organised environment. They were also pleased that presenters demonstrated knowledge of Bhutan and built this into resources and activities. Gratitude at being able to participate in a programme of such dimensions was commonly expressed and the Bhutanese and Australian sponsors thanked. The endnote from one participant was 'The course was very enriching and practical not only for PhD student supervision but also for carrying out regular research and teaching activities'.

Those associated with the planning and presentation of the programme here in Australia echo that sentiment, and look back with pleasure on their experiences in working together with Bhutanese colleagues. Currently, the QUT/ATN group is planning similar programmes with research groups from South Africa and the Philippines. RG



The Bhutanese Royal Civil Service Commission at a supervisors' training workshop at the Queensland University of Technology, Australia

- 1 *Reaching New Heights*, Royal University of Bhutan prospectus 2008-2009, p.11
- 2 The Australia Bhutan Friendship Association reports that 71 students from Bhutan are currently doing postgraduate work in Australia on research Masters' and PhDs.

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Who is in charge?

Research integrity in the international context

Melissa Anderson makes the case for greater oversight of research integrity.

Trust is critical in science. Researchers need to be able to trust each others' work in order to advance scientific understanding. They cannot afford the time and expense it would take to replicate all the findings on which their own work depends. The rest of us need to trust scientists, whose expertise far exceeds our own comprehension of complex problems. We cannot verify scientists' results and methods, and so we rely on their training, scientific methods and peer review to ensure that their findings are good and reliable.

We turn to science to promote innovation, restore economic prosperity, and improve human health and wellbeing. US President Obama expressed a general optimism about science when he promised, in his inauguration speech, to 'restore science to its rightful place'. Among the 'values upon which our success depends', the first he identified was honesty.

The problem, however, is that scientists are not perfectly trustworthy. Being human, they make mistakes, which basic honesty leads them to correct. Deliberate fraud is quite another matter: those who engage in it do everything in their power to avoid exposure. Every case of misconduct that appears in the media is a reminder that some scientists engage in inappropriate conduct.

The problem is made more complicated by the expansion of cross-national scientific collaborations. The extent of misconduct in the international arena is unknown, and differences in standards and norms make estimations difficult. In most countries, no national-level assessments of the extent of research misconduct have ever been attempted. In the US to date, the only national estimates of the prevalence of misconduct and other questionable research practices have been based on a survey that my colleagues and I conducted.

We surveyed over 7,000 researchers who were supported by the US National Institutes

of Health (NIH). We surveyed both mid-career scientists who had been awarded their first basic research grants and early-career scientists who were supported on federal postdoctoral fellowships. Our response rates for the two groups were 52% and 43%, respectively. We asked the scientists quite bluntly whether they had or had not engaged in misconduct or other misbehaviours. In the US context, 'misconduct', by the common federal definition, includes fabrication, falsification and plagiarism only.¹ We also asked about a wide range of other behaviours that have the potential to compromise the integrity of science; the list was derived from focus group discussions that we conducted with scientists prior to the survey.

We estimate that approximately 6 in 1,000 scientists engage in misconduct, by the federal definition, per year.² Given that this estimate is based on self-reports, we assume that it is conservative. Within the mid-career group, our estimates of misbehaviour, which we grouped into eight categories, range from 63/1,000 per year in the category of inappropriate assignment of credit, to 240/1,000 per year for questionable use of funds.³

We also found that certain elements of the research environment are associated with higher rates of misbehaviour. These include high levels of competitive pressure and perceptions of unfairness.⁴ We even found that certain kinds of mentoring are associated with higher levels of misbehaviour, notably the forms of mentoring that emphasise what one should do to survive professionally in science.⁵

Our estimates are generalisable only to US scientists funded by the NIH. There is, however, no reason to assume that science in other countries is devoid of the kinds of misbehaviour which we found in the US, or that scientists elsewhere are immune to the kinds of pressures that we found to be associated with misbehaviour.

What complicates the situation in the international context is that there is no universally-

recognised definition of misconduct and no unanimity about what behaviours compromise the integrity of science. Standards, regulations, policies and norms differ cross-nationally. Consider, for example, Switzerland's guidelines on the dignity of plants, which pose uncertain challenges to plant researchers.⁶ In some countries, religious or cultural norms may impose significant constraints on what researchers are permitted to do. Procedures to ensure the protection of human research subjects may be subverted when subjects do not understand the nature, purpose or risks of research.

Unfortunately, at present, there is no organisation authorised to investigate or adjudicate misconduct or other research issues that may arise in the international arena. There have been, however, several recent initiatives that call attention to the need for oversight of research integrity issues internationally. First, in 2007, the Global Science Forum of the Organisation for Economic Co-operation and Development (OECD) held a workshop in Tokyo, Japan, which resulted in a report on 'Best Practices for Ensuring Scientific Integrity and Preventing Misconduct'.⁷ It identifies a broad spectrum of forms and consequences of misconduct, as well as three generic approaches to handling misconduct cases (ad hoc committees, standing committees in research institutions, and standing committees at national level). It includes recommendations for responding to and investigating misconduct, and it calls for cross-national harmonisation of definitions and procedures.

Second, the First World Conference on Research Integrity was held in Lisbon, Portugal, in September 2007. The conference was the first opportunity for national officials, institutional leaders, journal editors, policy-makers and scholars to discuss their differing conceptions of integrity and misconduct and to consider ways of addressing related challenges. The conference presented a wide range of perspectives on misconduct, from nearly complete denial of scientific miscon-

duct and reliance on the scientific method and the professional integrity of scientists, to open acknowledgement of misconduct and its potential to harm science. A Second World Conference is currently projected for summer 2010.

Third, a conference that I organised on 'Challenges and Tensions in International Research Collaborations' was held at the University of Minnesota, USA, in October 2008.⁸ The conference focused on how international collaborations are affected by cross-national differences in the organisation and funding of science, legal and regulatory oversight, cultural expectations, and graduate and postdoctoral training. A related volume, *International Research Collaborations: Much To Be Gained, Many Ways To Get In Trouble*, will be published by Routledge in 2010.

While these initiatives are promising, the uncomfortable reality is that international research collaborations are largely unregulated, except by the separate national and institutional offices of the individual collaborators. There is a distinct need for greater international cooperation in research oversight and more attention to the problems that arise in international research settings. Our research suggests that behaviour that compromises research integrity and perverse forces in the research environment may be considerably more prevalent than most national and institutional officials are willing to acknowledge. Developing ways for different national systems to harmonise their approaches to misconduct will help them to respond quickly and fairly when problems arise in international research collaborations, as they inevitably will. **RG**



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- 1 www.ostp.gov/cs/federal_policy_on_research_misconduct
- 2 Martinson, Brian C., Anderson, Melissa S., and De Vries, Raymond (2005) 'Scientists behaving badly', *Nature*, 435, 737-738
- 3 Anderson, Melissa S. and others (2007) 'What do mentoring and training in the responsible conduct of research have to do with scientists' misbehavior? Findings from a national survey of NIH-funded scientists', *Academic Medicine*, 82 (9), 853-860
- 4 Anderson, Melissa S., 'RCR education in a contrary research environment. Workshop on Ethics Education and Scientific and Engineering Research: What's Been Learned? What Should Be Done?', National Academy of Engineering and National Science Foundation, August 2008 (www.nae.edu/nae/engethicscen.nsf/weblinks/NKAL-7LHM86?OpenDocument), and Martinson, Brian C. and others (2006) 'Scientists' perceptions of organizational justice and self-reported misbehaviors', *Journal of Empirical Research on Human Research Ethics*, 1 (1), 51-66
- 5 Anderson, Melissa S. and others (2007)
- 6 Abbott, A. (2008) 'Swiss 'dignity' law is threat to plant biology', *Nature*, 452
- 7 Global Science Forum (OECD) 'Best Practices for Ensuring Scientific Integrity and Preventing Misconduct' (www.oecd.org/findDocument/0,3354,en_2649_34319_1_119666_1_1_1,00.html)
- 8 www.international.umn.edu/oriconf/schedule.html

Impact of Thuthuka funding on capacity development at the University of the Free State

Olihile Sebolai reports on a South African higher education funding programme, and its effect on his institution.

The Thuthuka programme is a funding programme of the National Research Foundation in South Africa. The programme is co-funded in partnership with institutions of higher education which contribute a part grant, determined through a matching fund formula, to be received by emerging or young academics. Fundamentally, the programme is a research capacity development programme founded on the guiding principles articulated in the Skills Development Act of 1998 as well as the Employment Equity Act of 1998, which aim to address the skewed staff distribution in the labour market. As such, the objectives of the Thuthuka programme are:

1. to encourage the participation of blacks and women in research
2. to build capacity through training and supervision of postgraduate students, in order to supply the academic labour market
3. to ensure knowledge and skills transference through mentoring programmes

The Thuthuka programme consists of the following three sub-programmes, through which the programme supports young academics:

- Researchers in Training (RiT) – intends to support individual academics (regardless of their race or gender) from the point of being a new academic in training (i.e. pursuing a doctoral qualification) to becoming a competent researcher.
- Women in Research (WiR) – intends to specifically serve individual women (i.e. of all races) who experience career limitations and who demonstrate high potential to become active, independent researchers.
- Research Development Initiative for Black

Academics (REDIBA) – intends to prepare black South African researchers (i.e. black males) for positions of scientific and academic leadership.

This article aims to highlight the impact that Thuthuka funding has had in stimulating and supporting research among young academics at the University of the Free State.

Context

Issues relating to access to education, such as quality and separatism, are well documented in South Africa. The former apartheid administration had formulated policies that set out to deny 'blacks' (i.e. Africans, Coloureds and Indians) access to quality education through provision of Bantu education. Moreover, the institutional culture at many higher education institutions did not encourage the participation of women and blacks in academia and, for some time, promoting this was not a priority. This led to most professional jobs (including academic posts) in the country being occupied by whites – in particular, white males.

In order for South Africa to become a self-reliant state (through building a representative and well-qualified labour force, with an economy less dependent on natural resources as well as on the agricultural sector), the country needs to develop other sectors, such as the knowledge-based economy. Therefore, it is clear that investing in education and its systems could provide solutions for improving the future prospects of South Africa.

The new constitutional democratic state has, since 1994, made a concerted effort to invest in education as well as in research and development, in addition to funding other developmental imperatives of the state. The

establishment of the National Research Foundation (NRF) in 1999 further demonstrated the commitment of government towards investing in research. The core business of the NRF is to promote research through funding, human resource development and the provision of research facilities, in order to facilitate knowledge creation, innovation and development in all areas of science and technology. In 2001, state funding of research had increased by 15%. In 2005-2006, according to a Human Sciences Research Council survey, ZAR 14 billion or 0.91% of South Africa's gross domestic product (GDP) was spent on research and development.

Thuthuka and the University of the Free State

The Thuthuka programme started in 2001, and was introduced at the University of the Free State (UFS) in 2003. Since then, the programme has grown to 39 young academics at the university receiving research grants in 2008. During this period, the programme has invested over ZAR 7 million, co-funded by the NRF and the university (see Figure 1). Young academics based at all academic institutions in South Africa can apply for Thuthuka funding. Grants are made available on a competitive basis, and applications are subjected to a peer-review process. The UFS has attracted notable increases in Thuthuka funding over the years, suggesting that its applications are of a high quality.

Moreover, the Thuthuka research grant has a grant holder-linked bursary component. Thus far, these grant holder-linked bursaries have successfully assisted 80 postgraduates to obtain a higher qualification at the university. Nationally, the NRF has invested over ZAR 95 million in the Thuthuka programme.

Recognising that research is inherently

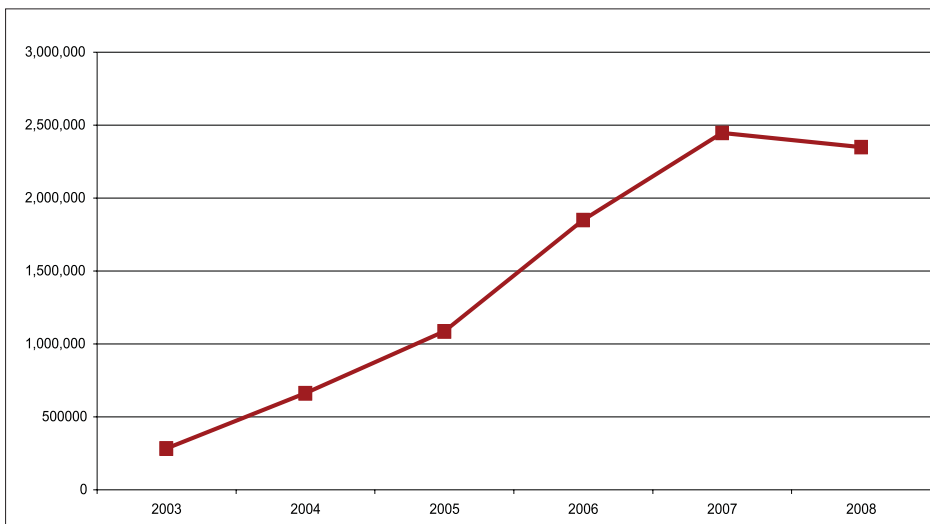
international, the Thuthuka programme also affords young academics an opportunity to participate at conferences or congresses, at a national and/or international level. This incentive has encouraged young academics to become more active and to produce academic outputs which they can present at conferences. Moreover, young academics can receive a study visit grant towards visiting a national and/or international academic institution. These study visits further contribute towards enhancing the quality of their research, and their development as future leading scholars in their respective disciplines.

Since its inception at the university, more female than male researchers have participated in the programme, contributing somewhat towards transforming the academic landscape at the university. However, the participation of black academics in the programme leading to an eventual academic post at the university



Young academics interacting with a facilitator during a proposal development and writing workshop

research among young academics in South Africa through funding. However, apart from



Thuthuka funding received at the University of the Free State, South Africa, since 2003

remains the greatest challenge. However, this trend is similar in other institutions of higher education in South Africa. This could be attributed to, among other reasons, blacks leaving academia for industry (and sometimes being headhunted by industry while studying), as industry seeks to align itself with the provisions made in the Employment Equity Act and the Affirmative Action Policy. Nonetheless, these academics still continue to contribute their skills and knowledge towards growing the economy.

Developmental support at the UFS

The Thuthuka programme has greatly contributed towards stimulating and supporting

much-appreciated funding, young academics still require additional complementary support, in order to become competent. Therefore, the university, through its Research Capacity Development Office (under the auspices of the Directorate of Research Development) also presents other developmental opportunities to assist young researchers further in this regard.

Among other activities, the office presents a seminar programme where young academics are afforded an opportunity to interact and learn from experienced facilitators. These facilitators are leading academics identified internally or externally, from other academic institutions in the country or from industry. These leading academics are invited to facilit-

ate a thematic workshop, chosen from a variety of themes such as postgraduate supervision, research process and management, and research commercialisation and IP.

These thematic workshops are important, as young academics can acquire critical skills and insight which they can use to enhance, for instance, their supervision practices. It is well documented that the quality of supervision often determines if a dissertation or thesis is successfully completed and is of a high quality. The Research Capacity Development Office also assists young academics in drafting a professional growth plan. The purpose of the growth plan is to guide and track their progress against clearly defined targets, as they work towards achieving their career goals, i.e. becoming an associate professor.

South Africa has come to understand that, in order to become internationally competitive, the country needs to build critical capacity in all areas of the economy. The Thuthuka programme has been employed effectively by government as an instrument to meet this challenge. In addition, HEIs (as institutions of academic excellence) have assumed a leading role in this process, through providing quality training and support, as demonstrated by the Research Capacity Development Office at the University of the Free State. **RG**

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Triple helix headlines and highlights

We are a single global community, more and more able to connect with ease using modern transportation or virtually, with collaboration and communication technologies. Geographic, organisational and sector borders are dissolving as our economies, discoveries, struggles and innovations become increasingly interconnected. Economic recovery and development are currently local and global foci, but economic concerns can no longer be separated from other intertwined issues such as energy, health and the environment. Holistic solutions require the development of new strategies, tools and processes that enable collaboration between government, academia and industry and thereby accelerate innovation. This column features cross-sector, multidisciplinary articles and resources aimed at increasing access to knowledge about triple helix innovation.

For more information, visit www.triplehelixinstitute.org



Collaboration now essential for business innovation

In a special report about the importance of collaboration in a tightening economic environment, collaboration is described as the next phase of the internet, and a USD 34 billion market opportunity. The use of open source collaboration solutions, which offer a combination of cutting-edge capabilities and lower operating costs, can afford benefits for companies looking for efficiencies. With IT budgets largely holding up, despite the current economic times, collaboration and unified communications deployments continue to grow. This overview uses case studies to answer the questions of how, what, why and when collaborative technologies should be used: to create innovation, empower individuals, generate cost savings and business competitiveness, and deliver communications on a global scale.

www.computerweekly.com/Articles/2008/12/17/233953/driving-business-innovation-through-collaboration.htm

Cross-sector collaborative projects and commercialisation of R&D

A recent Griffith Business School paper reports key findings from a four-year study of cross-sector collaborative R&D projects in Australia testing a theoretical model formulated to explain partner collaboration experience and perceived project success. The study contributes to the understanding of knowledge-

intensive collaborations, and indicates how their benefits can be sustained under conditions of high uncertainty. The theoretical, methodological and practical implications of the study's findings for the field of inter-organisational relations are discussed, and a new construct of project management competence is proposed as a determinant of positive partner experiences at the project level.

www.innovation-enterprise.com/archives/vol/11/issue/1/article/2728

Collaborative innovation for the post-crisis world

Paul Stoffels writes about the 2009 meetings at Davos, which wrestled with the global economic crisis and discussed solutions for 'Shaping the Post-Crisis World' in six areas, including economics, politics, innovation, science, technology, and new business models. He envisions one major road to economic recovery and that is through innovation – but not the innovation of the past, reliant upon closed activity conducted largely inside organisational walls. To succeed economically today, Stoffels argues that innovation itself must innovate to address the needs and process of the post-crisis world. Conducting innovation as an open activity enables us to harness the power of networked enterprise, multiplying investments and reducing risks because it includes varied experts, institutions, geographies, and resources. Open innovation, however, is not some extraordinary ideal or concept. It is happening right now, because today's

information-empowered flat world makes for a ripe landscape.

www.boston.com/bostonglobe/editorial_opinion/oped/articles/2009/02/02/collaborative_innovation_for_the_post_crisis_world

Venture philanthropy strategies to support translational research

An increasing number of voluntary health organisations are looking at venture philanthropy as a critical way to advance their mission of helping patients and working to cure disease. The concept of 'venture philanthropy' stems from venture capitalism, which invests money from various third-party sources in typically high-risk areas. The Institute of Medicine (IOM) of the National Academies has released *Venture Philanthropy Strategies to Support Translational Research*, a workshop summary that shares venture philanthropy experiences and lessons learned in order to improve efficiency and effectiveness for translational research, a tricky phase in the drug development process that bridges the gap between the halls of academia and commercially-funded clinical trials.

www.nap.edu/catalog.php?record_id=12558

Building capacity through cross-border university training

Education is an essential foundation for personal, social and economic success in a globalised economy. But how can developing countries offer enough education, particularly

quality tertiary education, to their citizens to enable them to play a full part in creating and enjoying such success? A policy brief, published by the Organisation for Economic Cooperation and Development (OECD), examines different models of cross-border higher education and outlines the benefits and risks associated with each.

The authors discuss two approaches widely used in South-East Asia: sending students abroad to study, and inviting foreign institutions to run courses locally. Although sending students abroad is widely recognised as a way of accessing new knowledge and research methods, the approach runs the risk of increasing brain drain, warn the authors. The benefits of inviting in foreign institutions are less obvious but can help expand higher education systems and build capacity. In Malaysia, for example, foreign providers accounted for 34% of bachelor and postgraduate programmes in the private education sector in 2006.

Making it work requires a suitable regulatory framework for foreign institutes that considers issues of accreditation, quality assurance, recognition of foreign qualifications and access to public funds. The authors identify commercial education as a threat to least developed countries, arguing that cross-border education could become an export industry for some donor nations – at the expense of development assistance. Mobility of students, academics, educational programmes and institutions in both directions should be considered in every country's strategy for building a better-educated citizenry. This is especially true for the developing world, where countries are often unable to meet domestic demand for tertiary education, but it is also true for OECD countries when it comes to improving the quality of higher education. This capacity-building approach to cross-border higher education aims to bridge the gap between supply and demand in developing countries, as well as to build these countries' domestic capacity to provide good quality higher education.

www.oecd.org/dataoecd/24/48/39997378.pdf

Profit from poverty: turning victims into consumers

There are plenty of charitable foundations and public agencies devoted to helping the world's poor, but private companies that manage to make a profit from helping the poor are rare. However, one little-known Danish firm understands that social mission and profit can coexist, by developing products that are pleasing to the eye as well as life-saving. Vestergaard Frandsen started out making work uniforms, but Mikkel Vestergaard Frandsen turned the company's attention to relief work, beginning with distributing blankets and clothing to refugee camps. One of the company's inventions is the LifeStraw, a ten-inch plastic cylinder costing less than USD 3 that filters out or kills a variety of bugs from contaminated water. The simple device – tested by Mikkel's father Torsten, who allowed television crews to film him drinking toilet water through the straw – has sold thousands following the Burmese cyclone and Asian earthquakes, and has also made it into museum design collections. Other life-saving products include insecticide-impregnated mosquito nets and fly-killing tent tarpaulins.

www.nytimes.com/2009/02/03/health/03iht-03prof.19884499.html?_r=1

Promoting public-private knowledge management in Africa

African science researchers and policy advisers have agreed to set up a foundation, endorsed by a range of African-based banks, to promote the use of scientific and other forms of knowledge by both public and private decision-makers in the continent. The Knowledge Management Africa (KMA) Foundation will be a focal point for various initiatives across Africa, each designed to investigate an aspect of using scientific and technical knowledge to promote social and economic progress. A statement, known as the Dakar Declaration, emphasised the need to move from 'development rhetoric' to concrete, action-oriented programmes. These include the development of infrastructure and the more efficient use of resources

needed to promote sustainable growth in fields such as health and agriculture. South Africa, for example, will host studies on the use of indigenous knowledge and how it can be enhanced through the use of ICTs and intellectual property laws. The foundation could also demonstrate to external donors that African banks are prepared to support knowledge-based investment projects, in turn helping to persuade donors to back such projects with their own funds. The foundation will also investigate how to build centres of excellence across the continent as 'repositories of knowledge', and the creation of networks of researchers intended to promote knowledge sharing and cross-border collaboration.

www.scidev.net/en/news/africa-backs-new-body-to-boost-knowledge-managemen.html

Research Matters – a knowledge translation toolkit

Knowledge translation is the knitting together of science and policy, and relies upon vibrant partnerships, collaborations and, above all, personal contact between researchers and research users. A knowledge translation toolkit has been developed and launched as part of the Global Ministerial Forum on Research for Health in Bamako, Mali. A resource for researchers and policymakers, it emerges from Research Matters (RM), a collaboration of the International Development Research Centre (IDRC) and the Swiss Agency for Development and Cooperation (SDC). In this toolkit, the RM team explores both ideas and practical steps associated with the effective exchange and translation of sound and innovative research among a wide range of research users, 'inviting you to try them out, share them, comment, and join with us in helping to achieve our shared goals of health and social equity'.

www.idrc.ca/uploads/user-S/12266886561/Research_Matters_-_Knowledge_Translation_Toolkit_.pdf

RG

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International round up

ARMA

Earlier this month, the 19th ARMA Annual Conference was held in sunny Southampton, UK, and, following on from the INORMS Congress in 2008, it was business as usual at ARMA 2009. This year's event focused on 'Reviewing the Future'; with a pre-event seminar on the impact of research and plenty of debate throughout the conference around the Research Excellence Framework and the economic crisis, the event definitely had a feel of looking forward to the challenges ahead.

Over 350 delegates and speakers, from Denmark to the West Indies, joined UK colleagues to listen, learn and debate research management issues. Lita Denny, Conference Director, said 'It was always going to be a challenge to build on the success of INORMS and all the previous ARMA conferences and I



ARMA 2009 delegates networking between sessions



Professor Sir Bill Wakeham, Vice-Chancellor of the University of Southampton, speaking at the ARMA 2009 opening plenary session

am delighted the feedback received both during and after the event was glowing. ARMA is attracting major corporate support, which adds value for our members in terms of exposure to new software, services and funder developments, and, of course, a major plus is the importance we place on networking opportunities for delegates'.

Next year, ARMA is heading north and the conference will take place on 7-9 June 2010 in Manchester. The event will build on activities from INORMS earlier that year in Cape Town, and will continue to provide what ARMA considers the leading professional development event for research managers and administrators in the UK.

SRA International

The 2009 SRA International Meeting will be held at the Washington State Convention and Trade Center, Seattle, USA, on 17-21 October. This year's meeting theme, 'Research Without Borders', encompasses the very essence of the programme: content relevant to colleagues across the globe and across institutional affiliations.

SRA's Annual Meeting offers a world of

educational and professional development opportunities: comprehensive, hands-on workshops and sessions, certified training programmes, networking opportunities, and a multitude of volunteer opportunities, connecting delegates with over 1,500 research administration professionals. Visit www.srainternational.org/sra03/index.cfm for further information.

Triple Helix VII

The Triple Helix VII conference, 'The role of Triple Helix in the Global Agenda of Innovation, Competitiveness and Sustainability', was held on 17-19 June 2009, at the University of Strathclyde, Glasgow, UK. The conference, attended by over 300 delegates from over 40 different countries, looked at the interaction between academia, the private and the public sector. It also included a total of 40 different sessions, and around 200 papers were presented, on several areas ranging from 'The third mission of universities' and 'National Strategic Frameworks and Innovation Infrastructure', through to 'Gender issues in Science, Technology and Innovation' and 'Commercialisation of Academic Research'.

The conference was centred on three main panels: ministerial, universities, and industry. The ministerial panel featured government representatives from Scotland (Fiona Hyslop, Cabinet Secretary for Education and Lifelong Learning), Portugal (Manuel Heitor, Secretary of State for Science, Technology and Higher Education), Indonesia (Kusmayanto Kadiman, Minister of Research and Technology), and the Netherlands (Renée Bergkamp, Director-General of Enterprise and Innovation, Ministry of Economic Affairs), who outlined their respective strategies on enhancing university-industry-government links.

The universities' panel, on 'Universities as Major Actors in the Knowledge Triangle', featured delegates from the University of Twente (the Netherlands), Technische Universität Hamburg (Germany), Universitat Autònoma de Barcelona (Spain), and Swinburne University of Technology (Australia).

The industry panel, on 'The Role of the Technology Strategy Board in Promoting University and Business Collaboration', presented some very interesting case studies of industries in Scotland supporting innovation through collaboration with local universities.

INORMS 2010

The third congress of the International Network of Research Management Societies (INORMS) will take place in Cape Town, South Africa, on 11-15 April 2010. The theme of the conference is 'Managing Research for Impact: New approaches to Research and Innovation Management'.

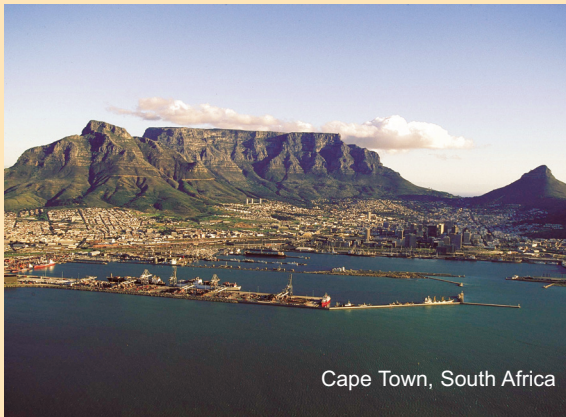
INORMS 2010 will be hosted by the Southern African Research and Innovation Management Association (SARIMA) and the Association of Commonwealth Universities (ACU). The call for sessions and papers is now open.

Funders' Forum

A Funders' Forum will take place just prior to the INORMS conference. It will bring together key funding bodies and universities from throughout the world, to identify good practice and to establish how programmes look from the perspective of both parties.

Questions to be addressed will include:

- Accessing the best partners – how to identify the most suitable research teams.
- Who's doing what? Trends in externally-funded research collaboration in Africa.
- A common understanding – what management and communication strategies are needed to make collaboration work.
- A fair balance – making sure that partners are equal in rewards and responsibility.



Cape Town, South Africa

The full programme will be available in late 2009. The event will allow funding bodies from throughout the world to:

- participate in the first INORMS Funders' Forum
 - bring programmes to an international audience, by participating in the main conference exhibition
 - sponsor a specific session, seminar or reception
 - support research investigators or research managers at institutions that you are already funding to attend – a valuable training investment that could pay long-term dividends
- Please note that registration fee discounts are available for significant groups supported by the same funding body.

For further information and to register your interest in any of the above, please visit the conference website at www.technoscene.co.za/inorms2010 or the INORMS website at www.inorms.org

ANNUAL MEETING CALENDAR

2009

September

16-18 ARMS

Annual Conference
Christchurch Convention Centre,
Christchurch, New Zealand
www.arms2009.org

October

17-21 SRA International

Annual Meeting
Washington State Convention and Trade
Center, Seattle, USA
www.srainternational.org/sra03/index.cfm

November

2-4 WARIMA

Annual Conference
University of Ghana
www.warima.org

21-24 NCURA

Annual Meeting
Washington Marriott Wardman Park Hotel,
Washington, DC, USA
www.ncura.edu/content/educational_programs/sites/51

2010

January

17-21 IMUA

Biennial meeting
Dubai
www.imua2010.ae

March

18-20 AUTM

Annual Meeting
Hilton New Orleans Riverside, New Orleans,
USA
www.autm.net

April

11-15 INORMS

3rd Biennial Congress
Cape Town, South Africa
www.technoscene.co.za/inorms2010

ARMS

The New Zealand chapter of the Australasian Research Management Society (ARMS) will be hosting the 11th Annual ARMS Conference at the Christchurch Convention Centre in Christchurch, New Zealand, on 16-18 September 2009, on the theme 'Evolution of Research Management'.

Online registration for ARMS 2009 is now open, and early bird rates apply until 15 July 2009. Registration closes on 1 September 2009. For further information, visit the conference website at www.arms2009.org/index.htm

Lessons learned from knowledge mobilisation: turning research into action

David Phipps, Michael Johnny and Daniele Zanotti discuss their experience in developing institutional capacity to support community-university engagement, and outline lessons learned in the process.

Knowledge transfer is not a new concept. While examples of community-university research projects abound, few universities have developed the institutional capacity to support community-university engagement in the same way as technology commercialisation and university-industry liaison.

Knowledge mobilisation (KM) is analogous to the now-ubiquitous institutional support for technology commercialisation but, rather than being focused on science and technology that leads to patents and products, KM is a suite of services that enhances the two-way connection between researchers and research stakeholders so that research and evidence can

inform decisions about public policy and professional practice. KM encompasses methods of knowledge transfer, translation and exchange, and extends them to include the co-production of knowledge (see Figure 1). KM enables social innovation, environmental sustainability and a greater cultural understanding. Knowledge mobilisation turns research into action.

During the last 2½ years, the KM Unit at York University, Canada, has collaborated with over 100 non-academic research stakeholder organisations, placed 25 graduate student KM interns with community/government partners, and supported the development of 13 large-scale grant applications, 11 of which were successful, attracting over CAD 12m in

external research funding. From this rich experience, we have developed ten lessons learned, using inspiration drawn from *The Prince* (by Niccolò Machiavelli) and *The Cat in the Hat* (by Dr Seuss).

1. *Concludero' solo che al principe, e necessario avere il popolo amico* – I will conclude then that it is necessary for the prince to have the people as friends.

Lesson: No silo research. Research partnerships must be broad and most importantly, engage the people impacted by the outcome.

Mobilizing Minds (www.mobilizingminds.ca) began when Henny Westra (Department of Psychology, York University) met Mary Lynne Porto (Canadian Mental Health Association) at one of York's 'KM in the AM' series of research forums on mental health. Now a CAD 1.5m 5-year KM project, funded by the Canadian Institutes of Health Research, Mobilizing Minds is a collaboration between young adults, community and practitioner organisations and academic researchers. It was developed through direct and sustained engagement of young adults and community organisations in the grant application process. Young adults and young adult mental health consumers remain involved in every stage of the project, including project governance.

2. So all we could do was to sit, sit, sit. And we did not like it, not one little bit. Then something went bump. How that bump made us jump.

Lesson: Enter all partnerships with an initial plan, a willingness to change depending on the circumstances and, when something goes bump, be present. Full commitment, engagement and openness are critical. If not, do not enter.

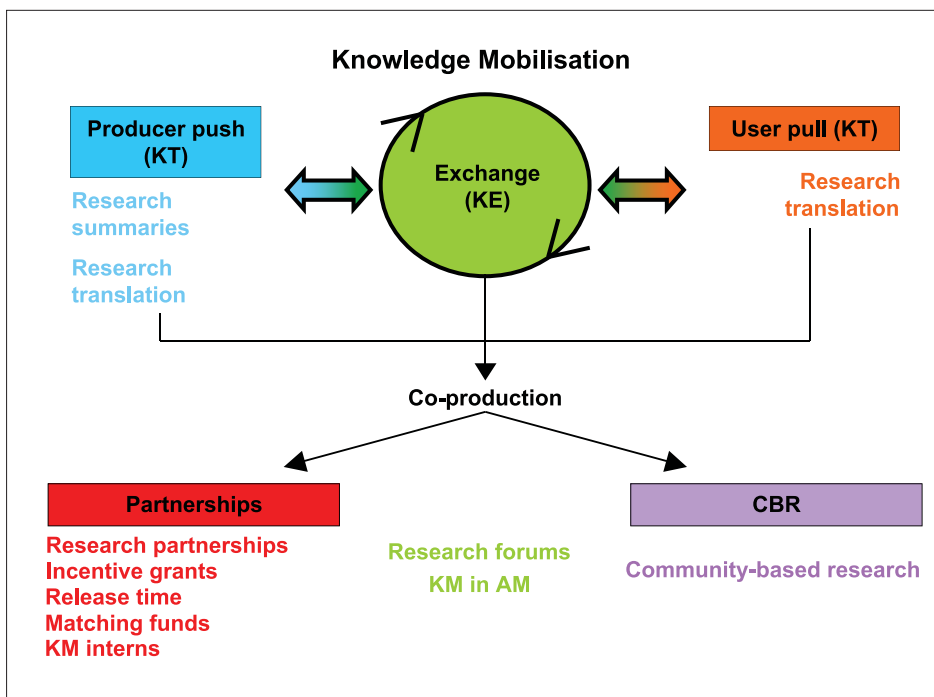


Figure 1: Knowledge mobilisation has elements of producer push, user pull, knowledge exchange and co-production (Phipps and Shapson, *Evidence and Policy* (2009 forthcoming))

York University researchers collaborated with York Region's Human Services Planning Coalition (HSPC) to evaluate its Inclusivity Action Plan, which developed services for new Canadians in the region, where 43% of residents in 2006 were immigrants. A shift in regional priority (the 'bump') created the opportunity for researchers to develop deliverables using non-traditional approaches such as video documentaries. These changes supported broader utility of the deliverables, potentially expanding the impact of the project.

3. *Perche chi lascia I suoi comodi per li comode d'altri, sol perde e sua, e quelli d'altri non li e saputo grado* – Because those who leave their agenda for the agenda of others lose their own way and never please that of the others.

Lesson: Understand and be passionate about your agenda first, and stay on course. While it is imperative to build a shared agenda and consensus, it is also critical that we all know and table our starting point and desired outcomes.

Planning a day-long Aboriginal Policy Research Forum for over 200 provincial policymakers in Ontario and British Columbia and using broadband technology to link the policymakers with four universities and indigenous community perspectives to create a 'virtual research forum' was a risky initiative for the KM Unit. Policymakers wanted answers which could not be given in a single day. The KM Unit wanted to broker relationships that would lead to answers. Working for over eight months, initially with Policy Innovation and Leadership of the Ontario Public Service, York brokered consensus amongst the four universities, Aboriginal stakeholders and key decision-makers from the Province of Ontario. The success of this day resulted from the ability of York's KM Unit to translate its own agenda for the day into a shared common agenda for all parties (www.researchimpact.ca/successstories/aboriginal/index.html).

4. But our fish said, 'No. No. Make that cat go away'. 'Now. Now. Have no fear', said the Cat.

Lesson: Engage the fish. Talk to the naysayers, the critics, the outsiders, and get them involved.

KM is not for everyone, nor is it intended to be. Not every research project in the natural and engineering sciences must result in a patent with commercial potential. Similarly, not every research project in the social sciences and humanities must have the potential for KM. In the development of the KM Unit, we spoke with several people inside and outside the university, including vocal critics of KM. Involving the sceptics in planning and listening to their concerns enabled us to reassure them and better articulate our work, positioning KM as a service that respects and compliments traditional scholarship. Interestingly, the sceptics were mainly academics rather than non-academic research stakeholders.

5. *Debbe un uomo prudente entrare sempre per vie battute da uomini grandi e quelli che sono stati eccellentissimi imitare, accio che, se la virtu non vi arriva, almeno ne renda qualche odore* – A wise man must always follow the beaten path of great men and those who are most excellent to imitate, so that, even if one's personal virtue does not suffice, at least the imitation will suffice

Lesson: Seek to imitate the best and the boldest.

Part of our early development was learning from existing KM initiatives. We have visited and learned from the excellent work of organisations such as the Canadian Council on Learning, and initiatives such as Cupp at the University of Brighton, UK, and the Harris Centre at the Memorial University of Newfoundland and Labrador, Canada. We also engaged with scholars studying the science of KM and now we are called upon from other universities and non-academic agencies to share our experiences.

6. I have some good friends. I can show them to you. I call them Thing 1 and Thing 2.

Lesson: The more partners the better – with, of course, commitment to the shared vision. Bring all to the table, but build corporate relationships, deeper than the strength of one-on-one.

More is better when it provides broader perspectives and coverage on an issue. Such was the case with our recent KM Expo (<http://researchimpact.wordpress.com/2009>

[/02/13/yorku-km-expo-2009](http://02/13/yorku-km-expo-2009)), where Dr Stan Shapson, Vice President Research & Innovation at York University, presented a vision of KM and social innovation for York University and York Region. Representatives from York University faculty, York Region community, an applied research institute, a provincial policymaker and a Canadian federal granting council were assembled to provide broad perspectives on Dr Shapson's remarks. Yet, however diverse the perspectives, individuals come and go. It is important to transcend the individual and form institutional relationships. York University has a seat on HSPC and on the Research and Community Engagement Committee of the United Way of York Region (UWYR). Similarly, the UWYR has representation on the York University President's Task Force on Community Engagement and on the KM Unit's Joint Advisory Committee. Two-way institutional relationships create mutual relevance and institutional trust.

7. *...debbe stare sempre in su la caccia* – Must always stay on the hunt.

Lesson: Never lose the hunger.

The KM Units at York University and the University of Victoria, Canada, started with a grant from the Intellectual Property Mobilization programme of the three Canadian federal granting councils. York University and partners in York Region subsequently received one grant to develop local KM and a second to develop research summaries. We never cease seeking additional support and are constant advocates, along with our non-academic stakeholders, for spaces to engage in KM. We

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What is the role of the research administrator?

Nicole Morcom gives a perspective on the many aspects of being a research administrator.

The role of the research administrator is complex and demanding but, at the same time, interesting and rewarding. Research administration in universities could never be described as dull; it is a dynamic, often fast-paced (some would say chaotic), work environment. But what is it that research administrators do? Is it just accepting research grant applications and then sending them off to funding agencies? Or do research administrators spend most of their time setting 'unrealistic' deadlines for researchers to miss or disregard?

It is in fact much more – research administrators play critical roles and have a significant impact on the research income success of universities. As with most professions, the evolution of the research administrator means that it has now, I believe, become a profession with distinction that attracts highly qualified and talented people. The role demands a talent for understanding and responding to a high degree of complexity, emotion and accuracy of both outputs and advice. However, unlike most professions, you need to be skilled in more than one discipline.

Adviser

Providing advice is an important part of research administration; providing concise, accurate and timely advice is another matter entirely. One thing that research administrators are often short of is time, so when advice is needed by a researcher immediately so that 'I can complete part A of form B, otherwise I cannot move to the next window and start part C – and its due to be submitted tomorrow', advice needs to be quickly sought and delivered, regardless of the 60 other applications awaiting attention that need to be sent today (or yesterday). It is evident that the multi-talented research administrator needs to be flexible, have a sound understanding of many different funding rules and

conditions and contract management, and know how to obtain information quickly.

Experience, dedication and organisation count for a great deal but, if you don't know the answer, you need to know where to go and how to find it out. Colleagues in the research office and at other universities can and will assist, as will the university and probably the funding body websites. But what is essential is making sure that you provide advice as quickly as you can and are honest. Situations such as the above scenario occur every day in research administration, and there is often tension and stress related to the question and the answer, but providing measured and accurate advice will, almost always, result in a successful resolution and respect.

Support

The support that research administrators can provide to researchers evolves and grows along with funding applications; for example:

- providing research funding opportunities via email, blogs, websites, phone calls
- following up with an information session or detailed webpage
- assisting the process of internal review
- review by the research administrator

If research administrators reduce the volume of poor research applications, then being an 'obstacle' is very important for a university's reputation.

- the 'back-and-forth' of final versions and discussions
- final submission
- follow-up

The above process is often followed by disappointment and the need for feedback, or delight and celebration of a successful application. If successful, another process begins, which broadly includes negotiating the research agreement and intellectual property rights, signing the agreement, and coordinating the finance. Then the researchers can finally get on with it, and the research administrator can start the whole process again, albeit slightly differently, with the next researcher, funding body and collaborator.

This process of providing support to researchers is only one part of the role – the practical part. However, there are other emotional support roles that research administrators also need to play. It is not easy, but providing organised, measured support and information will result in successful outcomes, many of which may be linked to clear and regular communication between researcher and administrator.

Mentor

It is a delight to see a fresh new face bursting with ideas, but one who has absolutely no idea of how the process of submitting a research application works. The mentoring of such early career or new senior researchers is both enjoyable and demanding. It is often important, in the long run, to explain processes and procedures at the beginning, so as to avoid confusion and disappointment later. The mentoring of experienced researchers can also be rewarding and enjoyable, as research administrators can perhaps provide them with new opportunities. It is possible to 'teach old dogs new tricks', but only if they are willing.

However, mentoring often also involves listening to the details of all manner of research projects, such as a new fungi that has just been identified, or that a research collaborator has just 'stolen and published my ideas and now

my career is over'. Mentoring is a significant role played by research administrators, but it may be undervalued by institutions, particularly in relation to its impact on the quality of future university research outcomes.

Obstacle

Research administrators appear to be the recipients of 'bad press', and are often referred to by researchers as obstacles, at best. This might well be true, and if research administrators reduce the volume of poor research applications, then being an 'obstacle' is very important for a university's reputation and overall research performance and income. It is also important to understand that what is simply process to administrators can be perceived by researchers as painful and unnecessary bureaucracy. Creating an environment of collaboration and collegiality amongst researchers and administrators is key to successful relationships and research outcomes.

Research administrators can also offer an understanding that researchers are good at what they do – research, and also often teaching and training – but are often less good at administration, and can make research administration an easy path for them to follow.

Conclusion

The role of the research administrator is multi-faceted: part teacher, part mother, part lawyer, part firefighter, part magician. Thus, to answer the question posed in this article's title, the research administrator's role is to be all of the above: adviser, support, mentor, and obstacle. It is not a role for the faint-hearted, and is often undervalued and overstretched, but it is amazingly interesting, challenging and different everyday. There is enormous job satisfaction, and perhaps there is no better time, given the current economic uncertainty, for the quality of future university research outcomes to be linked to the effectiveness and impact of the research administrator. **RG**

The author is grateful for the advice, support and mentoring she has received from many people in research administration over the years, at the University of Adelaide (Janet Dibb-Leigh) and at Flinders University (Christine Steel, Professor Chris Marlin and Bronwyn Simondson).

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believe strongly in turning research into action. We have successfully built locally and learned from those experiences to build our national network, ResearchImpact. We are always learning and are not afraid to explore new approaches to meeting the diverse needs of our stakeholders.

8. 'Have no fear of this mess', said the Cat in the Hat. 'I always pick up all my playthings.'

Lesson: Clean up. Partnerships and community mobilisation is messy. Communities are not looking for drive-thru work, but for the university's presence in the community. Even the Cat in the Hat came back in the second book.

A sustained community presence is what drove York University to develop a highly-accessible community engagement centre in a shopping mall in the neighbouring but traditionally underserved Jane-Finch community (www.yorku.ca/cec). York's KM Unit is working with the community engagement centre to make KM services available to this community. This sustained community presence will increase community access to the university, and the collaboration with KM will expand the reach of the KM Unit and help to develop community capacity for research engagement.

9. *Coloro i quali solamente per fortuna diventano, con poca fatica diventano ma con assai si mantengono* – Those who come only with good fortune may with little effort arrive, but must with huge effort remain and sustain.

Lesson: All good things take time and hard work. If it comes too easy, it is not likely worth it.

To date, the KM Unit has supported 105 collaborations between York University and non-academic research stakeholders. One example instructive of the need for persistence is the York Region Data Station. Supported by the KM Unit, this tireless group of community leaders shares an interest in providing greater access and capacity to utilise data to inform community decision-making. The KM Unit was integral in the first

Data Conference in November 2008 that used broadband technology to link three sites throughout York Region. The KM Unit will support a follow-up conference in June 2009.

10. And then he said, 'That is that'. And then he was gone with a tip of his hat.

Lesson: Not everything must last forever.

Gone, perhaps, but leaving a legacy of impact. Graduate Student Tammy Miller used skills learned in her MA in Communications and Culture during her KM Internship to inform the redesign of the web-based communications of Free the Children (www.freethechildren.com). These changes have had a substantial impact on the agency's ability to reach children and deliver key messages of empowerment and hope to stakeholders. The project was completed and Tammy returned and completed her MA, but the collaboration left a lasting impact on both the community partner and on Tammy.

Conclusion

Academic researchers working in partnership with non-academic stakeholders is not new; however, KM as an institutional capacity creates benefits for the institution, researchers, graduate students and research stakeholders. Universities need to work hard to develop relationships that include but also transcend individual researchers, projects and partners, in order to maximise the impact of the university on its communities, both local and global. Collaborating is not easy and you will encounter bumps along the road. The key to riding out the bumps is trust, a shared commitment, and never forgetting to communicate, communicate, communicate with funders, faculty, students and collaborators. **RG**

CAAST-Net: towards Africa-EU science and technology cooperation

Andy Cherry explains the thinking behind the CAAST-Net project, its activities, and its links with higher education.

CAAST-Net (an acronym taken from the project's title, the Network for the Coordination and Advancement of sub-Saharan Africa-EU Science and Technology Cooperation) is a high-level joint Africa-Europe project, whose goal is to pursue more and better cooperation in science and technology between Africa and Europe in both policy and research. The initiative, supported by the European Union's seventh Framework Programme (FP7) for research, reflects the increasing internationalisation of that programme. Recognising the relatively low level of FP participation by non-EU countries, developing countries particularly, CAAST-Net is one of several initiatives established to address this concern.

CAAST-Net was proposed in 2007 against the background of an emerging global consensus that capacity in science and technology (S&T) is essential both to economic competitiveness and to sustainable development and poverty reduction. In Africa, a growing number of governments are prioritising S&T as a key sector of their national and regional growth and development programmes. The internationalisation of R&D programmes is also a policy objective shared by Europe and Africa. As a consequence, there is an increasingly important focus on S&T under Europe-Africa cooperation programmes.

The current environment for cooperation in S&T between Europe and Africa is conducive. Various major global initiatives and fora in recent years – the World Summit on Sustainable Development, the 2005 Commission for Africa Report and G8 Summit at Gleneagles – have strongly made the case for increased investment in Africa's S&T capacity, and for



investment in skilled human capacity to stimulate economic growth, alleviate poverty and achieve the Millennium Development Goals. The renewed international focus on Africa (as shown, for example, in the adoption of a dedicated Joint Africa-Europe strategy at the 2007 Europe-Africa Summit of Heads of Government) and the acknowledged role of science, technology and innovation in economic transformation, sustainable development and poverty alleviation have contributed to a step change in the perception of the potential of S&T on the African continent.

At the same time, significant progress has been achieved by the African Ministerial Council for Science and Technology (AMCOST) to prepare and implement S&T programmes as part of the African Union's drive towards greater continental cooperation and coordination. Recent years have, therefore, seen greater interest in S&T cooperation with Africa. This is manifest in collaborative R&D programmes such as the Framework Programmes, but also through development cooperation programmes such as the European Development Fund of the Cotonou Partnership Agreement. The Joint Africa-Europe Strategy includes a dedicated focus on promoting S&T cooperation as part of its Science, Information Society and Space Partnership.

CAAST-Net's activities in cooperation analysis, policy dialogue and research cooperation, as well as awareness raising, brokerage and

dissemination, play an important contributory role in the evolution of the S&T relationship between Europe and Africa. On a practical level, CAAST-Net supports Africa's S&T consolidated plan of action (CPA) for which we have the close cooperation of the S&T department of the African Union Commission.

Analytical, monitoring and review activities

Understanding how major bilateral collaboration programmes between African and European countries, as well as other major European and international mechanisms of S&T cooperation, align with EU instruments is also important to the wider picture.

CAAST-Net is conducting analyses which examine the themes and instruments of S&T cooperation, and the extent to which collaboration adheres to acceptable standards of good practice, including whether and under what circumstances African participants gain from FP7 participation. Part of this analysis includes the identification of barriers to Africa's participation in European research programmes, primarily the Framework Programmes. A very specific analysis considers the synergy, or lack of it, between R&D cooperation and development cooperation. Recommendations will be made for improvements to the modalities of collaboration where analyses highlight deficiencies.

Dialogue activities

CAAST-Net is contributing to S&T research cooperation through thematic workshops, led by African and European experts who will identify R&D topics of mutual interest and benefit and then develop proposals to the European Commission (EC) for Africa-Europe cooperation. We hope the process of building proposals will also contribute to building the Africa-Europe partnerships to address the research topics. These proposals will be

considered by the Commission for inclusion in future FP7 Work Programmes, with a particular focus on funding them as 'specific international cooperation actions'.

A new platform for high-level S&T cooperation policy dialogue is emerging between European and African member states, together with the Commissions of the African and European Unions. CAAST-Net's role will be in providing support to the policy dialogue platform. In the meantime, CAAST-Net is promoting debate on issues of relevance to the platform, including improving knowledge on national and bilateral S&T policies relevant for strengthening the bi-regional S&T cooperation, and the participation of Africa in the activities of the growing European Research Area.

Support and dissemination

CAAST-Net's main activities focus on bi-regional dialogue. Implementation relies heavily on events to communicate and disseminate information, while success is predicated upon building support for CAAST-Net ideals among European and African stakeholder communities. To this end, the activities undertaken by CAAST-Net partners to raise awareness about opportunities for cooperation, and about respective research capacities, are vital to implementation.

CAAST-Net is already a strong consortium, whose core participants represent all geographic regions and the major international languages of Africa. Dissemination and communication activities are built around the web-based

Community Knowledge Management Platform at www.caast-net.org. This provides a virtual work platform for project partners and an expanding document library, as well as information dissemination services for partners, community members and the public alike.

CAAST-Net, capacity building and development cooperation

Perceptive readers, especially those more familiar with the EC and its funding mechanisms, might have realised that, since CAAST-Net is supported by the EC's Framework Programme for research, capacity building is not an explicit goal of the project. Indeed, much of the focus of cooperation between the West and Africa is arguably centred on development cooperation, with research cooperation playing a much smaller role. However, most would agree, I hope, that increased capacity, especially human capacity, is a frequent and welcome outcome of research cooperation. Moreover, research cooperation spans the spectrum from 'blue skies' pure research to highly applied initiatives directed towards development goals, which can have clear capacity building outcomes.

Synergies with HE institutes

Synergy between CAAST-Net activities and HE institutions is not hard to find. Although CAAST-Net's consortium of S&T ministries and national S&T agencies does not include HE institutes, it isn't our consortium partners which will necessarily benefit directly from

the research opportunities created. Those which do stand to benefit are those which, perhaps through association with CAAST-Net and its events, take the initiative to build early consortia around thematic topics and are ready to respond to FP calls for proposals of joint research topics. HE institutions must number among those which are well placed to benefit through this route.

Looking at other areas for synergy, CAAST-Net is anticipating an expansion of its consortium in 2010; perhaps here we have an opportunity to build closer associations with the HE sector, to establish cross-sectoral dialogue and to consider how HE might respond to expanded opportunities for Africa-Europe cooperation. It's perhaps also worth pointing out that, while CAAST-Net seeks to provide suggestions to the EC for joint research topics, we are also keen to open discussions with national funding programmes for similar purposes. Of course, here the link to HE institutions is evident, as they are typically major recipients of national funding programmes.

CAAST-Net is about promoting cooperation in S&T between Europe and Africa. Without partnerships, there can be no effective cooperation, so partnerships are vital to the ultimate achievement of our goal. CAAST-Net examines the nature of cooperation: what's good and where are the barriers? It identifies topics of mutual interest and benefit for research cooperation, and it promotes the policy dialogue that supports cooperation. On top of this, CAAST-Net provides practical support and information to those seeking to engage in cooperation. CAAST-Net has an S&T flavour, but it is clear that there are many issues common to all domains of collaboration.

While CAAST-Net promotes research cooperation, it is not a research project itself and our partners do not necessarily address the research topics we identify. We are in the business of brokering partnerships between research organisations, academic institutions such as universities, and policymakers. And, as with all real partnerships, everybody benefits. **RG**

- CAAST-Net is a four-year joint Africa-Europe platform dedicated to advancing bi-regional cooperation in science and technology. CAAST-Net was conceived in 2007 and is supported by the European Union's seventh Framework Programme (FP7).
- CAAST-Net promotes S&T research and policy cooperation, and brokers partnerships between research organisations, academic institutions and policymakers.
- The CAAST-Net programme has six objectives:
 - a. Supporting Europe-Africa S&T dialogue and cooperation platforms.
 - b. The identification and prioritisation of common research areas of mutual interest and benefit to the EU and Africa.
 - c. Harnessing Europe-Africa S&T cooperation to address specific problems.
 - d. Promoting, supporting and contributing to Europe-Africa cooperation under FP7.
 - e. Promoting synergy between Europe-Africa S&T partnerships and developing cooperation.
 - f. Monitoring the performance and impact of Europe-Africa S&T cooperation.
- You can sign up as a CAAST-Net community member to receive regular updates on CAAST-Net activities. For more information, visit www.caast-net.org
- CAAST-Net is coordinated by the Africa Unit at the Association of Commonwealth Universities, on behalf of the UK government.

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Career spotlight

In each issue of *Research Global*, we interview a research management professional who shares with us their experiences, insights and views of RM. In this issue, **Karen Wilson** answers our questions.

How and when did you get involved in research management?

I accepted the position of Special Assistant to the Vice-Chancellor for Research at the University of Alaska Fairbanks, USA, in 1989. At the time, Dorothy Yates (now Associate Vice President for Research and Economic Development at the University of Wyoming, USA) mentored and encouraged me to continue in this emerging profession. I worked with the vice-chancellor to grow sponsored projects, evolve our laboratories and interact with polar ice coring programmes. I became deeply immersed in several projects, departments and research operations. My professional development grew as I volunteered on committees, building a portfolio of expertise in compliance and operations.

In what ways is an RM career better than others you could have followed?

Research administration allows individuals the opportunity to develop a skills set of expertise in all areas of administration and operations. I particularly enjoy working with the scientists. My belief is that our jobs should be transparent wherever possible. Would I choose it again? I don't think I chose research administration, it just happened. It was a natural progression, as I was always interested in science, administration and law. Research administration is a natural fit and a good profession, and I would recommend it to others.

What are some of the key challenges that you have faced?

The internet has changed the communications world. One now has all information at their fingertips. Research administration is swiftly moving to a paperless environment, and demands immediate feedback. Other challenges include obtaining training or exposure to new ways of accomplishing business.

Another key challenge is understanding the science. Many research administrators, like myself, are not PhDs. My experience has been that working as a team and being involved in

a project with knowledge of the science is the best way to provide good customer service. It is important that research administrators are involved throughout the life of the award with the project personnel.

Finally, an additional challenge is that sponsoring agencies are inconsistent. Each agency has its own regulations, and proposal submission and administration processes. This requires the research administrator to be flexible and to examine the whole picture, in order to achieve the desired goal.

What are some of the lessons that you've learned along the way?

Know funding agencies thoroughly! It is important to recognise that not all projects and institutions are the same. Research administrators need to be proficient in all areas. Another lesson I have learned is 'do the right thing and do it right'. Trying to achieve both will always produce a 'win-win' situation. As for compliance, my motto is to 'right comply' – understand compliance, with good and well-understood policies, procedures and information systems in place. I have learned to understand the research and to recognise the need to expand expertise in administration. Broaden your knowledge into human resources, contracting, accounting, payroll and import/export, in order to move into executive research administration. Lastly, it is most important to provide good customer service. The customer could be the funding agency, the scientist, staff, co-workers and/or the community. It is all the same and pretty basic.

What activities give you the most satisfaction?

Satisfaction is working out the complex in anything. Negotiating and solving the hard issues with funding agencies, executive administration, or the community. International research operations, administration, strategic planning, including policy and procedure development, are most appealing. With all the

new government transparency regulations, I am excited about setting up new tracking procedures, contracts and agreements. I also like developing staff to their full potential. Giving staff the tools to grow their own contributions is very satisfying, and I love presenting workshops and seminars. Another area is working with federal agencies to negotiate terms and conditions in the operation of large science centres.

I am proud of all my work, and the staff and colleagues I have connected with throughout my career – it has been interesting and challenging. I am proud of the model which I have developed, the 'Roadmap for Reorganization'. It lays out a simple strategy and roadmap for all administrators to develop a reorganisational plan, whether for a department or for a whole institution. I also am proud of my contributions to developing administrative policies and procedures, and that I am able to work comfortably with all areas of an organisation and especially with federal funding agencies. More recently, I am proud that, as a woman, I have been accepted in executive areas which were previously not accessible. It is important for me to be an excellent role model for the next generation of research administrators, and I truly believe in broader participation in all of the sciences.

What kinds of organisations have you worked with?

My research administration career started at the University of Alaska Fairbanks in the 1980s, where I was exposed to university administration and sponsored research. I worked both at the academic school dean's level and the provost level. I would say that my most educating experience was at the Lowell Observatory, a private non-profit organisation, where I was Secretary-Treasurer and CFO. I did not have a large staff to draw from, so I learned to do it all – research, corporate and general administration. The National Optical Astronomy Observatory (NOAO), where I am now, allowed me to take my experience to a larger and more complex level.

I have found it necessary to be flexible, sometimes even stepping back to go forward.

I have had to learn to be self-sufficient also. It is necessary to balance work with your private life, otherwise there is burnout. There is a need to stay on top of the electronic world – without being technologically educated, you will be left behind. I have also had to learn the science: attend science talks, seminars and project meetings. There is a need to know what your counterparts are doing. For example, if you work in pre-award, learn the operations of post-award. Visit other institutions to get an outside perspective.



Who has been your greatest source of inspiration or guidance?

I have been fortunate to benefit from several individuals. Dorothy Yates has been a mentor, colleague and close friend. She is past president of SRA International, and made me sign up the first day I worked for her. Now we are teaching new research administrators the profession together, through our sessions on career development, reorganisation, compliance and personnel administration. Robert Millis, Director of the Lowell Observatory, guided me through many challenging opportunities and gave me the authority and support to do my job. David Mears, retired from the President's Office of the University of California System, guided me over the years through difficult administrative compliance situations, encouraging me to try new policies and procedures, and kept me on track. Paul Nacon, of Huron Consulting, inspired me to learn more about policy and procedure development with his vast knowledge of audit issues. Finally, Todd Boroson, former Interim NOAO Director, taught me how to run an institution through difficult times, and through multiple operational reviews and agency oversight. There are more, but those I have mentioned are now lifetime colleagues and friends. These individuals have also taught me how to mentor my staff as well as others. I am currently mentoring 2-3 research administrators per year;

many have gone on to important positions, and that makes me very proud.

How has being part of an RM association affected your work?

I wouldn't be in my current job, or any of my research administration jobs, without SRA International. I have learned how to do my job better through attending SRA meetings, and I really believe that SRA is important to all research administrators. Just networking gave me answers to questions in my daily work. I was also the Western Section president and a member of the SRA Board of Directors, which was a wonderful, educating experience in itself. The SRA Body of Knowledge has been a great resource for not only me, but also my staff. I found mentors through SRA and now I am mentoring through SRA. I learned how to give seminars, workshops and other presentations. I am able to give back to my profession and have made lifetime friends and colleagues.

Do you see any big challenges facing the RM profession?

We are a global culture now. Work partners include commercial, private and foreign entities, in addition to working with the government. It is important to work out fine points in advance and with as much detail as possible. Agreements need to anticipate the issues and clearly state the scope of work, including export control and technology transfer particulars.

Operating in other countries poses pro-

cedural and policy reviews and changes. One of the biggest problems is currency fluctuations. Budgeting the costs of operations in one currency while operating in another poses real challenges. Recruitment is another topic. Living in a foreign country for extended amounts of time raises issues as to benefits, travel, relocation and cultural simulation. It is important to see the big picture, anticipate needs, and work with colleagues who have been in similar situations.

Global research administration forums are critical for expanding the networking of our profession.

Tell us more about yourself...

If it has a motor or an engine I am interested in it. My husband and I go on motorcycle tours and attend car races whenever possible. I am also interested in computers. I spent most of my high school allowance on stereo equipment, so music is my other passion. I grew up on vinyl albums and still look for them at specialist stores and home sales. My current project, though, is to get it all transferred to my computer and then my iPod. Go figure, 20 years ago technology was a portable tape player and hard drives, and now I can watch movies on my phone!

Someday, I will get my book on the 'Roadmap to Reorganization' finished and published, and maybe even spend time riding a motorcycle down the coast of Chile. Right now, I would like to have stability in our economy and our institutional budgets, so that I can continue my work in a less chaotic environment.

RG

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Recent publications

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

International

Global Education Digest: Comparing Education Statistics across the World

An expanded statistical reference source, issued annually. It shows the strength of some education systems in terms of enrolments, student mobility, and expenditure. Inevitably it is not comprehensive (some national statistics are simply unavailable) but, particularly with the more detailed time series data and educational attainment figures now included, it does broadly characterise the recent expansion of education provision.

[UIS; 978-92-9189-062-0; 2008
(www.uis.unesco.org/template/pdf/ged/2008/GED%202008_EN.pdf)]



The Challenge of Establishing World-Class Universities

A report analysing how universities become globally competitive and the difficulties faced in doing

so. Trying to identify what a 'world-class university' is brings into question what confers this status. If understood in terms of familiar world rankings (THES, SJTU, etc) both objective (e.g. enrolments, research citations) and subjective (e.g. international reputation) data are significant. Other more generally defined characteristics include advanced research, technology transfer, and the qualifications and skills of an institution's graduates. Effective research management would therefore seem integral, but particularly so if 'world-class' is directly equated with concentrating talent (staff and students), effective resourcing, and supportive governance. While acknowledging that there is 'no universal recipe or magic formula for "making" a world-class university', the report refers to the relative importance of government policy, other sectors (e.g. private and philanthropic), and an institutional 'genuinely innovative' vision. For the World Bank, though, there is also a realistic acceptance that concentrating initially on developing effective regional institutions could be 'more appropriate' in some contexts.

[Salmi, J.; 978-0-8213-7876-2; World Bank; 2009
(<http://go.worldbank.org/ICNMIN4VX0>)]

The Growing Accountability Agenda in Tertiary Education: Progress or Mixed Blessing?

A recent paper which sets out three 'good accountability' principles: achievement, positive incentives, and 'mutually agreed' approaches. It criticises accountability as an imposed and fixed institutional process. Accountability could be presented positively as simply developing a 'culture of self-assessment', underpinned by the routine collection and circulation of comparative information – the process, in practice, of any ongoing research. In conclusion, though, the report accepts the pressures now faced by institutional leaders with the 'irreversible evolution towards increased accountability', and the problems in identifying compatible, or even measurable, objectives.

[Salmi, J.; 2009; World Bank
(<http://go.worldbank.org/2W7HMTN4I0>)]

Africa

Towards a Common Future: Higher Education in the SADC Region

A detailed report which presents and analyses 'for the first time, significant information about the profile and state of higher education in Southern Africa'. Of particular interest are sections on the state of public science and university/firm interaction in the region, the latter focusing on one new role of the university, 'to enhance linkages and interaction with knowledge users, specifically firms'. As well as analysing the context for current university-firm interaction, the report surveyed such links in 13 SADC countries as the basis of future strategy. A recurrent idea is the need to foster differentiated strategies and ones which are appropriate to the local conditions, while still aiming at regional collaboration.

[Various authors; 978-0-9814099-3-1; 2008; Southern African Regional Universities Association (SARUA)
(www.sarua.org/?q=content/towards-common-future)]

Very useful profiles of higher education by country are included both here and, with further detail, linked to another recent SARUA study, *Mainstreaming Higher Education in National and Regional Development in Southern Africa*

(www.sarua.org/?q=content/mainstreaming-higher-education-national-and-regional-development-southern-africa).

Asia-Pacific

Powering Ideas: an Innovation Agenda for the 21st Century

A 10-year policy outline issued by the Australian government. It is based on analyses undertaken last year, as well as being a formal response to the recommendations of the recent Cutler Review ('Venturous Australia'). The *Agenda* was issued in May to coincide with Australia's ambitious budget proposals, 'Transforming Australia's Higher Education System'. Among its priorities is the goal of increasing 'the number of research groups performing at world-class levels, as measured by international performance benchmarks', and a long-term aim of 'increasing international collaboration in research by Australian universities'. The proposals are endorsed by various funding schemes. Research quality is to be strengthened through its developing 'Excellence in Research for Australia' programme. The need for a more coherent innovation and education structure underpins the *Agenda* – it frankly acknowledges that the current system is 'handicapped by fragmentation, duplication and a lack of co-ordination', and that the country ranks last in OECD rates of collaboration between firms and universities. As with any manifesto for strategic change, it is ambitious, but it is informed by the detail of several recent innovation-related policy analyses, and has the benefit of focused and timely budget commitments.

[Australian Government; Department of Innovation, Industry, Science and Research; 978-0-642-72584-4; 2009;
(www.innovation.gov.au/innovationreview/Pages/home.aspx)]

Europe



DIUS Research Reports series

The UK's DIUS regularly issued HE-related research reports. Some recent ones have concentrated on innovation, particularly using

EU comparative data from the CIS4 (Community Innovation Survey) as evidence. The emphasis is on the role of innovation in business, though the latest study in the series, *Innovators and the Research Base*, has useful evidence and analysis of the direct collaboration with universities. For example, it considers the differences in collaboration with either local or regional and with 'world' universities. In conclusion, it argues that 'the university is an under-exploited part of the information network for innovation' and, in consequence, that there is a role for intermediaries or 'innovation middlemen'.

[Various authors; (UK) Department for Innovation, Universities and Skills (DIUS); 2009 (www.dius.gov.uk/research_and_analysis/research_reports)]

RCUK/UUK Review of the Impact of Full Economic Costing on the Higher Education Sector

A review of revised research funding arrangements and an analysis of the full economic costing (FEC) system, its associated policies, and possible changes which would ensure continuing financial stability in research. In addition to research council funding, it includes perspectives from government departments, charities and industry. How indirect costs are determined elsewhere is also briefly noted, both implying the ways that a national research base can remain competitive, and also reflecting how government funding agencies internationally 'are generally very interested in the UK experience with FEC'. The international context also informs its recommendations, including the suggestion of further study into the flows of incoming/outgoing research contracts.

[UUK; RCUK; 2009 (www.rcuk.ac.uk/cmsweb/downloads/rcuk/reviews/fec/fecreport.pdf)]

Students and Higher Education Reform: Survey among Students in Higher Education Institutions in the EU Member States, Croatia, Iceland, Norway, and Turkey

A detailed survey of student opinion, assessing some 15,000 responses from 31 European countries. It ranges from access, cost and international student mobility issues to the perceived purposes of higher education. Unusually, however, it also asked about greater university/business cooperation, and 'the need to foster an entrepreneurship mindset as part of higher education programmes' (a statement with which a large majority (87%) agreed). Within this aspect of the survey, the value of work placements, tailor-made courses and redesigned curricula/funding was analysed, revealing considerable variation internationally; for example, respondents in the Netherlands, Denmark, and Germany were among the least likely to endorse a role for HEIs in fostering innovation, with, in contrast, Iceland, Bulgaria, Slovenia, and Romania being the most positive. The survey, though published as part of the Eurobarometer series, was prompted and framed by a larger and more ambitious project – 'a modernisation agenda for universities' within the Lisbon Strategy for Growth and Jobs.

[Gallup Organization. Requested by the EC Directorate-General Education and Culture, & co-ordinated by Directorate-General Communication; European Commission; 2009 (http://ec.europa.eu/education/news/news1330_en.htm)]

North America



State of the Nation 2008: Canada's Science, Technology and Innovation System

A candid review of innovation in Canada which, in including its current weaknesses, considers what could motivate and enable a better and more competitive system. Sustained, wide-ranging and international collaboration is recommended, partly reflecting an inclusive definition of innovation itself as 'more than R&D'. Wider collaboration also confirms the benefits of research which is multidisciplinary, something 'integral to the knowledge-based

economy', but which also quite simply contributes to a society's health and quality of life. It accepts that, despite its achievements, Canada is, comparatively, 'a solid, middle-of-the road performer' based on current innovation indicators; it does argue too, however, that original and more accurate measures of innovation and its impact are required. The report's wider relevance internationally is in its analysis of some of the conditions for effective innovation (infrastructure, talent, supportive markets), how it is assessed and how it may be recorded. Similarly, reiterating that several diverse sectors and not just business/industry have roles in encouraging innovation is useful – whether it is not-for-profit organisations, or government (municipal, provincial or national). As an inaugural report, it is effective in linking its aims with recent national science and technology policy and structures. Its value also lies in explaining the need for and identifying new goals for innovation advantage.

[Science, Technology and Innovation Council (STIC); 2009 (www.stic-csti.ca/eic/site/stic-csti.nsf/eng/h_00011.html)]

South Asia



National Knowledge Commission: Report to the Nation 2006-2009

The Indian NKC's final report, which, as a compilation of its previous studies, shows the range and detail of its analyses, but also how they could be best coordinated, particularly with reference to the expansion of education under the country's Eleventh Five Year Plan (2007-2012). Intellectual property rights, innovation and entrepreneurship, as well as higher education generally, were among the areas which the NKC analysed and gave recommendations on over the last three years. One aspect of the NKC's Innovation Survey is reiterated: the 'need for more effective synergy between industry, government, the educational system, R&D environment and the consumer'.

[NKC; 2009; (www.knowledgecommission.gov.in/downloads/report2009/eng/report09.pdf)]

RG

Research news

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Malaysian and Egyptian universities to collaborate on nanotechnology

(first published 16 April 2009)

The Penang-based University of Science, Malaysia (USM) has announced collaborations with two Egyptian universities – Al-Azhar and Alexandria – to carry out research in nanotechnology and vaccines.

'USM is prepared to offer places in the post doctoral programme to students from Al-Azhar, with a special fund to help them from year to year, according to their achievement and performance', the Vice-Chancellor of USM, Tan Sri Dato' Dzulkifli Abdul Razak, said. Agreement was also reached to organise an annual science and technology conference.

Addressing the collaboration with Alexandria University, the Vice-Chancellor said that USM aspires to collaborate with world-renowned universities, especially from Islamic countries, to advance research in vaccines, increase student exchange and offer post-doctoral programmes.

Good governance critical to promoting research

(first published 21 April 2009)

The emergence of democracy has demanded greater accountability among African governments. Scientists agree on its importance in promoting research and increasing institutional funding, but the goal remains elusive for some African countries, as corruption and violation of human rights have

been an impediment. Institutions such as the New Partnership for Africa's Development (NEPAD) have been instrumental in efforts to promote good governance. NEPAD is helping countries implement the African Peer Review Mechanism (APRM), used to assess countries' progress in achieving democracy and political, economic and corporate governance, yet statistics from the African Union show that the continent loses about USD 148 billion a year to corruption.

The problem calls for a much more coordinated approach to enable the continent to promote good governance. Scientists will not be able to solve it on their own. They will need the support of civil society to raise awareness among the public about the need to hold their governments accountable in promoting good governance. Civil society and the public need to ensure that governments implement APRM. It is a voluntary mechanism, but its implementation is beneficial for African countries in their bid to root out corruption and promote economic growth. The benefits will be reaped across all sectors of a country's economy. On the part of research, good governance will help to increase funding and encourage growth of the sector. Donors have outlined good governance as a condition for aid, and poor governance has contributed to the shortage of donor funding for social sciences research.

All these interventions will not be possible without corresponding data documenting evidence of the link between research and good governance. Scientists will need to channel their efforts to build a strong case to lobby for good governance.

BBSRC moves to protect niche skills

(first published 20 May 2009)

The Biotechnology and Biological Sciences Research Council (BBSRC) in the UK has launched a consultation in partnership with the Biosciences Federation in order to identify potential skills gaps in the biosciences.

The initiative has been launched to address concerns that bioscience graduates are not being equipped with the complete spectrum of skills needed to fill the void left by the retirement of their older peers. Learned societies and industrial associations will be invited to submit their ideas about where these gaps might emerge in the coming years.

Celia Caulcott, Director of Innovation and Skills at the BBSRC, said that the number of experts needed in any field might not always be high, but it would be important for the UK to maintain its expertise in key strategic areas. 'It is clear that in some niche areas there is particular vulnerability to factors such as limited training or career opportunities, or the retirement of existing specialists.'

Sue Assinder, Chairwoman of the Biosciences Federation's education committee and a member of the BBSRC Bioscience Skills and Careers panel, which is overseeing the consultation, said that the exercise is aimed at ensuring the survival of the more esoteric areas of expertise, rather than addressing the needs of the private sector. 'Within biosciences there's a lot of talk about skills that universities need to instil in their graduates so that they are fit for purpose in terms of industry. So it tends to be employer led.'

'These are relatively easy to predict in some ways and you can quite easily tailor your courses so that you are trying to produce graduates that meet the end user needs. But in doing that, there is a danger of taking your eye off the ball to look at some of the skills that we need to keep that maybe aren't at the cutting edge. Unless we have some people with those skills we're actually not going to have the underpinning that we need.'

Assinder says that recent concern about the lack of taxonomy skills is a prime example of the type of problem the BBSRC and BSF hope

to identify. She adds that similar concerns are now emerging about plant breeding skills, which is beginning to face 'chronic shortages'.

The BSF will make its own submission to the consultation, based on the input of its 50 member organisations, in which it will attempt to identify common overarching themes.

The BBSRC panel will then make recommendations to the council about how investments can be made to fill the gaps, such as through targeted studentships in certain areas and by encouraging universities to ensure that threatened skills are offered on their biosciences curriculum.

Framework 6 audits find widespread errors in project accounts

(first published 20 May 2009)

European research organisations are being forced to repay money that the European Commission says it has overpaid for Framework 6 research projects.

Follow-up audits by the Commission have found 'systemic mistakes' in personnel and overheads calculations at nearly all of the research organisations participating in Framework 6. The 'ex-post audits', which were introduced in Framework 6, mean that projects can be re-audited up to five years after completion.

If the auditors decide that the Commission overpaid, project participants must return that money. Irregularities in, for example, the overhead rates charged in one project are assumed to affect all the projects that research organisation participated in, and the total overpayment for that organisation is extrapolated from one audit. The Commission plans to re-audit 40% of the Framework 6 research budget.

The Helmholtz Society, an association of German research centres, says that one of its centres has been asked to repay money from 196 research projects, all of which had been audited before and passed Commission scrutiny. The centre has just 45 days to respond. 'We will have to devote hundreds of person-hours to these audits', says Susan Kentner, director of the Helmholtz Society's Brussels office. 'This is a huge deal. The affected projects have run for years and been audited several times. For us this is a pointer that the system of audits is a massive management failure.'

All Framework 6 projects submitted accounting reports to the Commission at least every 18 months and had their finances co-signed by the Commission's own legal and cost administrators. Research organisations are particularly upset that the Commission is ignoring its own 'audit certificates', which certified that a project's finances were in order after every audit.

A Commission official said the practice of extrapolating costs in ex-post audits would save time and public money. 'This is not a punishment, but a correction', he said. 'The alternative to the trust-based approach would be to say we audit everything all the time. We have to get this balance between control and trust.'

World Bank says China should expand private sector research

(first published 21 May 2009)

China needs to provide continuous government support for private sector growth if it is to develop an enterprise-led technological innovation system, according to a report by the World Bank.

'In China's existing national innovation system, state-owned enterprises and research institutes are the main performers of innovation activities; in the future, however, China's success in technological catching-up is likely to rely more on the capacity of its private sector, especially large private firms', the report concludes.

The report, released on 14 May and entitled *Promoting Enterprise-led Innovation in China*, found that the country has dramatically increased its investment in R&D since the mid-1990s. It encourages the Chinese government to emphasise more strongly the efficiency of research and development spending.

GlaxoSmithKline and bioengineering company form influenza vaccines partnership

(first published 11 June 2009)

The UK-based GlaxoSmithKline pharmaceutical company has announced an agreement to form a joint venture with Shenzhen Neptunus Interlong Bio-Technique, a bioengineering company based in China. The agreement, announced by GlaxoSmithKline on 9 June, will focus on developing and manufacturing vaccines, including those for pandemic influenza, for the mainland China, Hong Kong and Macau markets.

GSK will take a 40% stake in the joint venture, contributing the equivalent of GBP 21 million, while Shenzhen Neptunus will take a 60% stake and contribute GBP 31m. The agreement is expected to be completed in the fourth quarter of 2009. **RG**

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Eye research grants

Closing date: 1 September 2009

Details: The International Retinal Research Foundation invites applications for its research grants programme. Grants support scientific research on the diseases of the human eye, especially its centre, the macula, and peripheral retinal research that will ultimately accelerate the outcome of discovery. Specific consideration will be given to those scientists who are actively working toward discovering the causes, preventions and cures of macular degeneration and diabetic retinopathy. Grants will only be awarded to non-profit organisations. Projects will be funded for periods of one year up to a maximum of USD 100,000.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$259075\\$query\\$8200525\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview259075query8200525)

Legal education awards

Closing date: 1 September 2009

Details: The Law School Admission Council (LSAC) invites applications for its research grant programme. This programme funds empirical research on legal training and legal practice broadly viewed. This includes the study of precursors to legal training (including demographic variables), all varieties of legal training itself, and the work that lawyers, judges, law teachers, and other legal professionals do after they complete their training. The programme welcomes proposals for comparative research proceeding from any of a variety of methodologies, a potentially broad range of topics, and varying time frames. Proposals will be judged on the importance of the questions addressed, their relevance to the mission of LSAC, and the quality of the research designs. The programme is open to applicants from all countries.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$246069\\$query\\$8263462\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview246069query8263462)

Bibliography fellowship

Closing date: 4 September 2009

Details: Cambridge University Library invites applications for the Munby Fellowship in Bibliography for the academic year from 1 October 2010 to 30 September 2011. The Fellow will be free to pursue bibliographical research of their own choosing. It is, however, expected that the research will be based, at least in part, directly or indirectly on the collections of the university and colleges of Cambridge and be of benefit to scholars using them. The Fellowship is open to graduates in any discipline of any university and nationality. Preference will be given to scholars at postdoctoral or equivalent level. The stipend is currently GBP 25,623.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$248407\\$query\\$8362835\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview248407query8362835)

Peace fellowships

Closing date: 8 September 2009

Details: The US Institute of Peace invites applications for its Senior Fellowships Competition within the Jennings Randolph Program for International Peace. The Fellowship is open to outstanding practitioners, scholars, policymakers, journalists and other professionals to conduct research on conflict and peace while in residence at the institute. Applications are welcome from all disciplines in the humanities, natural sciences, social and behavioural sciences, and the professions. Priority is given to proposals likely to make a significant contribution to the understanding and resolution of

ongoing and emerging conflicts. Applicants should propose projects with clear policy relevance. Historical topics are only considered if they shed light on contemporary issues. The award will attempt to match the recipient's earned income during the year preceding the Fellowship, up to a maximum of USD 80,000 for 10 months. Travel to and from Washington DC is also included, and each Fellow is provided with a part-time research assistant. Citizens of any country may apply. There is no specific educational degree requirement for this programme.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245835\\$query\\$8264460\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245835query8264460)

Information science awards

Closing date: 15 September 2009

Details: The Association for Library and Information Science Education, in collaboration with the Online Computer Library Center, is accepting applications for their joint library and information science research grants. These support independent research that helps librarians integrate new technologies into areas of traditional competence and contributes to a better understanding of the library environment. Grants are open to full-time academic faculty in schools of library and information science. International proposals and collaborative projects are encouraged.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$662230\\$query\\$8263502\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview662230query8263502)

NIH replication, fine-mapping and sequencing

Closing date: 29 September 2009

Details: The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) invites grant applications for replication, fine-mapping and sequencing: follow-up on genome-wide association studies for arthritis and musculoskeletal and skin diseases. These grants encourage applications that propose to perform replication, fine-mapping, and sequencing studies of human genomic regions that are

putatively associated with phenotypes relevant to the NIAMS mission. The objective of this funding opportunity announcement is to enhance the identification of causal genes and genetic variants that influence complex diseases relevant to the NIAMS mission. Replication, fine-mapping, and sequencing studies are to be conducted in existing cohorts with defined phenotypes. This FOA will not support recruitment of human subjects, collection of medical or phenotypic data, studies using animal models, or the initial discovery phase of GWAS. This FOA will utilise the NIH research project (R01) grant mechanism. NIAMS expects to commit approximately USD 1.5 million total costs in each of fiscal years 2010, 2011, and 2012, to support three to four new projects per year. Budgets up to USD 250,000 direct costs per year and project periods of up to two years may be requested. Eligible applicants include domestic and foreign non-profit or for-profit organisations and public or private institutions. PAR-09-135

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$663770\\$query\\$8264884\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview663770query8264884)

European University Institute senior fellowships

Closing date: 30 September 2009

Details: The European University Institute invites applications from established academics for the Fernand Braudel Senior Fellowships. These enable established academics with international reputations to conduct research in one of the institute's four departments: economics, law, history and civilisation, and political and social sciences. The departments invite Fellows to participate in the activities which they organise. Fellows may be associated with one of the research projects under way at the institute, and may be involved in teaching and thesis supervision tasks of the institute's professors. The Fellowships are open to internationally-established academics of all nationalities. Former professors or fellows of the institute are eligible beyond three years' expiry of their last contract. Fellowships last between three and 10 months; the monthly grant is EUR 3,000.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$254356\\$query\\$8379729\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview254356query8379729)

Water resources prize

Closing date: 30 September 2009

Details: The Stockholm Water Foundation invites nominations for its 2010 Stockholm Water Prize. Any activity or actor which contributes broadly to the availability, conservation and protection of the world's water resources, and to improved water conditions which contribute to the health of the planet's inhabitants and ecosystems, is eligible to be nominated. The activities can be within the fields of education and awareness-raising, human and international relations, research, water management, or water-related local activities. The work of nominees should have great potential or proven impact. Self-nominations and direct approaches to members of the nominating committee will disqualify any nominee from further consideration. The prize is worth USD 150,000.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$250769\\$query\\$8363483\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview250769query8363483)

Biomedical science awards

Closing date: 1 October 2009

Details: The Gairdner Foundation invites nominations for its International Awards. The prizes of USD 100,000 honour outstanding discoveries or contributions to biomedical science and can be given jointly for the same discovery or contribution, but each awardee receives a full prize. Qualified scientists from every branch of biomedicine are eligible to be nominated for the awards. All necessary travel and accommodation expenses for winners and their partners to accept awards are paid by the foundation. There are no restrictions on nationality.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245370\\$query\\$8362792\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245370query8362792)

Cancer fellowships

Closing date: 1 October 2009

Details: The Cancer Research Institute invites applications for the Irvington Institute Fellowship Program. These Fellowships are designed to foster the training of qualified young scientists at leading universities and research

centres around the world in cancer immunology or general immunology. These three-year funding commitments are for USD 45,000 in the first year, USD 47,000 in the second year and USD 49,000 in the third year. They also include an institutional allowance of USD 1,500 per year. Applicants must have a doctoral degree by the date of award activation and must conduct their proposed research under a sponsor who holds a formal appointment at the host institution. Applicants with five or more years of relevant postdoctoral experience are not eligible, with the exception of MD applicants. There are no nationality restrictions.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245374\\$query\\$8263720\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245374query8263720)

EU FP6 access to research infrastructures

Closing date: 1 October 2009

Details: Under the European Commission's Framework 6 Access to Research Infrastructures Fund, applications are invited from scientists to make use of the neutron spectrometers at the Laboratoire Leon Brillouin (LLB). LLB provides access for French and foreign scientists to the neutron spectrometers installed at the Orphée research reactor. These instruments enable the measurement of structure and dynamic of condensed matter in various fields including magnetism, chemistry and chemical physics, material sciences, and biology.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$250889\\$query\\$8269137\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview250889query8269137)

Young scientist award

Closing date: 15 October 2009

Details: The Alexander von Humboldt Foundation is inviting applications for the Sofja Kovalevskaja Award. This enables winners to conduct research at German universities and non-university research institutions of their own choice. Scientists and scholars from all countries outside Germany, and from all disciplines, may apply. Preference is given to young, qualified female researchers. Applicants should be no more than 35 years of age and should have completed their doctorate with dist-

inction no more than six years previously. Funding is worth a total of EUR 1.65 million.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$249618\\$query\\$8363559\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview249618query8363559)

Environment prize

Closing date: 31 October 2009

Details: The University of St Andrews invites applications for the St Andrews Prize for the Environment. The prize scheme aims to provide seed funding to help promote implementation of innovative environmental ideas and solutions. Entries for the prize should be practical and combine good science, economic reality and political acceptability. They should also have the potential for wider application. The winner will receive a cash prize of USD 75,000 and a medal. Additional awards of USD 25,000 each are given to the runners-up. Individuals and research teams worldwide are eligible to submit entries.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245329\\$query\\$8363476\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245329query8363476)

Organic chemistry award

Closing date: 1 November 2009

Details: The American Chemical Society invites nominations for the Arthur C Cope Award to recognise outstanding achievement in the field of organic chemistry, the significance of which has become apparent within the five years preceding the year in which the award will be considered. The award includes USD 25,000. An unrestricted grant-in-aid of USD 150,000 for research in organic chemistry, under the direction of the recipient, will be made to any university or non-profit institution selected by the recipient.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$246235\\$query\\$8200333\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview246235query8200333)

Machinery technology research

Closing date: 30 November 2009

Details: The Mazak Foundation invites applications for its research and development grants. The aim is to support research and develop-

ment in order to affect advanced production systems mainly on the utilisation of machine tools and to advance production engineering through the incorporation of international technology, to contribute to the advancement of the machinery industry worldwide. The foundation aims to assist and subsidise universities, institutions and individuals worldwide who are engaged in the research and development in such fields as production engineering, information network technologies, control technologies, machine tools and other peripheral equipment such as robotics. The following entities are eligible to apply: institutional and individual scholars; institutions including attached research organisations; technical colleges; other scholars and organisations admitted by Mazak. There are no nationality restrictions.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$255015\\$query\\$8265951\\$by\\$Sponsor.query\\$8265413\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview255015query8265951by$Sponsor.query$8265413$)

Grants for think tanks

Closing date: 1 December 2009

Details: Atlas Economic Research Foundation invites applications for the Dorian and Antony Fisher Venture Grant. The organisation will award up to USD 100,000 to promising think tanks around the world. Grants are given to think tanks that represent great investments for the future of liberty. They will be given to early stage institutes that can have an important impact on the climate of ideas and that have a demonstrated track record and commitment to good practices. The programme focuses on helping think tanks that are no more than eight years old; therefore, only applications from think tanks founded after 1 January 2002 are eligible. No geographic restrictions apply.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$734541\\$query\\$8264048\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview734541query8264048)

Maths and economics prizes

Closing date: 1 December 2009

Details: Northwestern University invites applications for the Nemmers Prizes. There are two prizes: the Erwin Plein Nemmers Prize in Economics, and the Frederic Esser Nemmers Prize in Mathematics. Both prizes recognise

work of lasting significance in their respective fields. The 2010 recipients of the Nemmers Prizes will deliver a public lecture and participate in other scholarly activities at Northwestern University for 10 weeks during the 2010-2011 academic year. Candidacy for the Nemmers Prizes is open to those with careers of outstanding achievement in either the field of economics or mathematics, as demonstrated by major contributions to new knowledge or the development of significant new modes of analysis. Individuals of all nationalities and institutional affiliations are eligible, except current or recent members of the Northwestern University faculty and recipients of the Nobel Prize. Nominations from experts in the field are preferred to institutional nominations; direct applications for the Nemmers Prize will not be accepted. Each prize is worth USD 150,000.

ResearchResearch link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$252866\\$query\\$8263533\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview252866query8263533)

Religion award

Closing date: 1 December 2009

Details: The University of Louisville invites nominations for the Grawemeyer Award in Religion. The aim of this award is to honour and publicise insights into the relationship between human beings and the divine, and the ways this relationship may empower human beings to attain wholeness, integrity or meaning. Ideas are sought on issues including:

- understanding the divine or ultimate reality
- the origin and purpose of human existence
- authority and freedom in religious understanding
- pluralism and religious truth
- evil, suffering and death
- compassion, joy and hope
- religion and science
- divine involvement in human history

The ideas must have been presented or published within the last eight years. The prize is worth USD 200,000, payable in five annual instalments of USD 40,000. Nominations are accepted from religious organisations, leaders and scholars, presidents of universities or schools of religion, and publishers and editors of scholarly journals. Self-nomination is not allowed.

Research link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$249486\\$query\\$8263885\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview249486query8263885)

Eye diseases award

Closing date: 31 December 2009

Details: The Champalimaud Foundation invites nominations and applications for the Champalimaud Vision Award 2010. This recognises research groups around the world who have made outstanding contributions to the alleviation of visual problems, including eye diseases of all kinds, primarily in the developing world. The award is worth EUR 1 million.

Research link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$254987\\$query\\$8266607\\$bySponsor.query\\$8265413\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview254987query8266607bySponsor.query8265413)

Basic chemical research

Closing date: 1 February 2010

Details: The Welch Foundation invites nominations for the Welch Award in Chemistry. The purpose of the award is to foster and encourage basic chemical research and to recognise, in a substantial manner, the value of chemical research contributions for the benefit of humankind. The award is made for important chemical research achievements that have not previously been rewarded in a similar manner. Nominations are welcomed from appropriate scientific organisations and individuals. Self nominations are not eligible. The prize is worth USD 300,000.

Research link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$246241\\$query\\$8263735\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview246241query8263735)

Leukaemia research awards

Closing date: 1 March 2010

Details: The Lady Tata Memorial Trust invites applications for its international awards for research in leukaemia. These fund studies of the leukaemogenic agents, the epidemiology, pathogenesis, immunology and genetic basis of leukaemia. Awards may last one to two years and are open to qualified investigators of any nationality. Priority is given to those with a view to establishing scientific collaboration

between centres. In addition, the trust will award one studentship of two to three years duration which will support a student entering an MPhil/PhD programme. Both types of awards are expected to range between GBP 15,000 and GBP 25,000 per annum.

Research link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245281\\$query\\$8363469\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245281query8363469)

Prizes in literature, moral sciences, the arts and medicine and the physical, mathematical and natural sciences

Closing date: 15 March 2010

Details: The International Balzan Foundation invites applications for its annual prizes. These recognise individual achievements in the broad areas of literature, the moral sciences, the arts and medicine; and the physical, mathematical and natural sciences. Focus areas this year are:

- cognitive neurosciences
- science of new materials
- history of science
- literature since 1500

Cultural and scientific institutions worldwide are invited to submit candidates' names for the four awards. Each of the four prizes is worth CHF 1 million, half of which should be used for research and similar projects, preferably involving young scientists or scholars. Nominees should be scholars, artists or scientists who have achieved international distinction.

Research link:

[http://new.researchresearch.com/#main\\$.Data.Funding.All\\$preview\\$245212\\$query\\$8266518\\$bySponsor.query\\$8265413\\$](http://new.researchresearch.com/#main$.Data.Funding.All$preview245212query8266518bySponsor.query8265413)

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Based on the ACU's successful *Research Opportunities* magazine, *Research Global* brings 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 and 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.

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