



JULY 26 2019

REFLECTIONS ON THE RESEARCH ECOSYSTEM

Lessons from UASP Alumni in sub-Saharan Africa

Rebecca Ward, IREX

The University Administration Support Program is funded by the Carnegie Corporation of New York.

IREX
1275 K Street, NW, Suite 600
Washington, DC 20005

© 2019 IREX. All rights reserved.

For any commercial reproduction, please obtain permission from communications@irex.org.

TABLE OF CONTENTS

Executive Summary	4
Introduction	6
Findings	7
An Environment of Opportunity and Challenge	7
Perceived Strengths and Growth Opportunities	8
Key Observations on US universities	11
Conclusion	14
Turning Learning into Practice	14
What's Next?	14
Annex A: Compiled PESTLE and SWOT	15
Annex B: Research Management 360, Detailed Data	16
Annex C: Perceived Professional Development Strengths and Weaknesses	19
Annex D: Perceived Knowledge and Technology Transfer Practice	20
Annex E: UASP Alumni and Small Grant Recipients	21

EXECUTIVE SUMMARY

IREX draws on six weeks of discussion and active reflection with 24 mid- and senior- research leaders from universities in sub-Saharan Africa to provide a snapshot of perceived performance and growth opportunities. They herald their strong institutional brands, research strategies and international partnerships, and identify significant strides in managing sponsored research programs. However, they also find growth opportunities related to leadership, strategic management and data, people management and professional development, knowledge transfer, and marketing and communication.

IREX's UASP Fellowships – funded by the Carnegie Corporation of New York – improve the research management skills of mid- to senior-level university faculty and administrators to enable them to improve their institutions' ability to compete and collaborate internationally, win international research funding and transfer knowledge and technology to their communities.

The purpose of this briefing is **to provide a snapshot of perceived performance and growth opportunities across leading universities in sub-Saharan Africa** drawing from the pre-arrival capacity assessments, discussion and active reflection of 24 fellows in the 2018/19 cycle. For two weeks in Washington DC, professionals with an interest in improving research performance across the ARUA network were engaged in in-depth discussion and reflection about their current practice and lessons learned from the fellowship experience. This generated rich data, which was captured, recorded and analyzed by IREX staff. We believe this has resulted in useful insights for university leaders.

In this briefing, we share a reflection on **factors and trends impacting research management** and **strengths and weaknesses of the research ecosystem** in leading sub-Saharan universities, and a summary of the **key lessons derived by fellows from their placements at US universities**.

Opportunities and Threats

- UASP Fellows' perceive the biggest opportunities for their institutions to come from further development of international partnerships, harnessing emerging (international) funding streams, leveraging a strong alumni base, building strong relationships with government and working alongside the private sector.
- UASP Fellows' perceive the biggest threats to their institutions to be pockets of political unrest and insecurity, decreasing state funding, growing competition, brain drain, low accountability and inertia, and the risk of being locked out of regional and international research alliances.

Strengths and Growth Opportunities

- UASP Fellows identify significant strengths in their universities including their **strong institutional brands** and excellent faculty and staff. Most institutions have **clear research missions**, visions and strategies and have improved their ability to disseminate funding opportunities, manage sponsored research and govern research funds. This had led to more and deeper **international partnerships** and the growth of a research culture where research success is celebrated. Knowledge is transferred through teaching, publications, conferences, consultancy, and – though nascent in some institutions – collaborative and contract research.
- UASP Fellows also identify significant growth opportunities in their universities. **Perceived gaps in strategic management, governance and data** were frequently cited as drivers of low accountability and inertia. Limited administration and management skills – especially actualization of strategies – and limited internal data management – especially centralized and coordinated systems – were both highlighted. A lack of research related standards setting was also believed to be a factor driving low accountability and inertia. **People management and professional development** repeatedly emerged as an area needing growth. Limited professional development for researchers and research administrators and limited pastoral support for researchers were thought to contribute to low motivation and brain drain – both seen as critical issues.

Fellows also felt that their institutions **lacked capacity to improve their visibility** – especially researchers' capacity to leverage social media and develop professional networks, and limited institutional capacity to strategically approach marketing and communication. Fellows also viewed **knowledge and technology transfer** as an area with significant space for growth, especially social, civic and policy engagement, secondments, licensing and spin-outs which are widely perceived to be under-utilized. This is driven by a range of factors including lack of IP policy and institutional understanding of knowledge transfer, poor faculty understanding of IP and knowledge transfer, an under-developed private sector, and limited funding and resource environments.

Key Lessons from the US Fellowship

Fellows came back from their placements with broad and varied observations ranging from confidence boosting confirmation of good (and better) practice at their home institution, through identification of shared challenges, to observing good practices that could improve performance back home. When reflecting on the transferrable good practices they observed, the following themes emerged.

- **Data informed decision making.** Robust mechanisms for collecting, coordinating, synthesizing and using institutional research related data for decision making.
- **Leadership and accountability.** Institutions have invested heavily in leadership development at all levels and have mechanisms for performance management and accountability.
- **Actualization of strategy.** Institutional strategy is widely known, frequently referenced, fully integrated with decision making and closely monitored.
- **Peer learning and collegiality.** Institutions create multiple platforms for peer learning and support.
- **Enabling environment.** Institutions are focused on enabling researchers to thrive through professional development, support for wellbeing and incentives and protected time for research.
- **Leveraging digital and online technologies.** Digital and online technologies are leveraged to support both research administration and research.
- **Engagement, branding and marketing.** Institutions invest heavily in building meaningful relationships, creating their brand, and marketing it to their staff and alumni and local, regional and international communities.
- **IP identification, protection and exploitation.** Institutions have established robust governance structures for knowledge and technology transfer including standards and targets, policies and procedures, organizational units, training and incentives and monitoring and control systems.

INTRODUCTION

IREX's UASP Fellowships – funded by the Carnegie Corporation of New York – improve the research management skills of mid- to senior-level university faculty and administrators to enable them to improve their institutions' ability to compete and collaborate internationally, win international research funding and transfer knowledge and technology to their communities.

The 2018/19 cycle brought together 24 fellows from across the research ecosystem of ARUA members¹, including a deputy vice chancellor, heads of departments, research center directors, deputy and assistant registrars, professors and research administrators. During six weeks in the United States (US), they followed a structured training curriculum, spent four weeks embedded in a university faculty, research management or knowledge transfer unit and participated – together with their peers – in two weeks of discussion, reflection and design at IREX in Washington DC. Fellows also completed a “Research Management 360” assessment, discussed further below, prior to departing for the US.

IREX Research Management Curriculum

- The Role of the 21st Century Research University
- Research Governance and Organization
- Enhancing Reputation and Visibility
- Research Ethics and Integrity
- Researcher Development and Career Support
- Finding, Winning, and Managing Sponsored Research
- Crowdfunding
- Research Impact and Knowledge Transfer
- Intellectual Property
- Strategic Management for Research Managers
- Project Implementation

The purpose of this briefing is to provide a **snapshot of perceived performance and growth opportunities across leading universities in sub-Saharan Africa**. For two weeks in Washington DC, professionals with an interest in improving research performance across the ARUA network were engaged in in-depth discussion and reflection about current practice and lessons learned from the fellowship experience. This generated rich data, which was captured, recorded and analyzed by IREX staff. While not designed at the outset as a research project, we believe that this has resulted in useful insights for university leaders and ARUA's DVC-R Group.

In this briefing, we share:

- A reflection on factors and **trends impacting research management**, based on fellows' collective perception of the current university operating environment and the key messages from two panel discussions held during their workshops in Washington DC
- Reflections on **strengths and weaknesses of the research ecosystem** in leading sub-Saharan universities, based on fellows' perceptions of current performance
- A summary of the **key lessons derived by fellows from their placements at US universities**.

FINDINGS

An Environment of Opportunity and Challenge

After discussing research management trends globally – including international collaboration and mobility, consolidation around themes, competition, impact, and the open movement – fellows were asked to reflect on their current operating environments.² They perceive an era of both opportunity and challenge: where international alliances can provide a step up, but also lock-out; where institutions are under-prepared to exploit the benefits and mitigate the risks of technology; where the youth boom presents opportunity but also civil unrest; and where they would like to reach out to their communities but cannot yet bridge the gap to private and public sector partners.

Fellows feel empowered to navigate this environment because of their strong institutional brands, the breadth of their research bases, their international partnerships and some excellent faculty and staff. But they feel hampered by poor funding and resource environments, low motivation of low-waged staff, weak continuing professional development, poor administration and management skills, poor internal data management and a lack of accountability. Notably, the strength of the academic staff unions was flagged as both a strength and a weakness, perhaps reflecting the range of professional positions held by our fellows.

In this context, fellows perceived the biggest opportunities to be further development of international partnerships, exploitation of emerging (international) funding streams, leveraging a strong alumni base, leveraging strong relationships with government and working alongside the private sector which is strengthening in many fellows' cities. The biggest perceived threats come from pockets of political unrest and insecurity, decreasing state funding, growing competition, brain drain, low accountability and inertia, and the risk of being locked out of regional and international research alliances. A full read out from these activities is presented in [Annex A](#).

Fellows also participated in two panel discussions: **Making Research Matter: Connecting Research Outcomes to Local and Global Development Needs**³ and **Better Together: Working with Industry in International Research Collaborations**⁴ which brought together over 80 interested parties and further built a picture of global trends in research funding, management and knowledge transfer. Key lessons from the two panel discussions are presented below.

Making Research Matter: Connecting Research Outcomes to Local and Global Development Needs	Better Together: Working with Industry in International Research Collaborations
<ul style="list-style-type: none">• Policy and development partners should be engaged early as co-producers rather than end users• Broad, sustained, trusting relationships between	<ul style="list-style-type: none">• University – Industry partnerships are moving from transactional one-off IP-based models to more holistic engagements that span workforce development through to complex research

¹ University of Ibadan, University of Lagos, University of Ghana, University of Cheikh Anta Diop, University of Rwanda, Makerere University, Addis Ababa University, University of Nairobi, University of Dar es Salaam, University of KwaZulu Natal, Rhodes University, University of Cape Town and University of Pretoria.

² To consider how their proposed reforms might be impacted by the external environment, fellows were asked to consider political, economic, societal, technological, legal and environmental (PESTLE) factors impacting their institutions and to reflect on the strengths, weaknesses, opportunities and threats (SWOT) facing their institutions. Note, these exercises took place after their placement in a US university, so their perception of home practice may be influenced by what they observed.

³ Nthabiseng Taole, University of Pretoria; Noah Garrison, UCLA; Maija Kukla, National Science Foundation; Jennifer Troyer, National Human Genome Research Institute, National Institutes of Health.

⁴ Hassan Naqvi, Johns Hopkins Technology Ventures; Rosemary Omwandho, University of Nairobi; David Rapaport, Siemens Corporate Technology; Harl Tolbert, Penn State University.

<p>partners are required for achieving policy impact (project by project doesn't work)</p> <ul style="list-style-type: none"> • International collaboration and interdisciplinary work remain critical to solving difficult global problems • It is vital that local staff engage local communities and leverage indigenous knowledge • Overcoming the misalignment of timelines between research and policy should be forefront • The focus on application and impact should not crowd out developing capacity to produce basic research and knowledge outcomes • Donors continue to support universities' role in development, e.g. Science, Technology, Innovation, and Partnerships (STIP) in Higher Education Program, and Long-Term Assistance And Services For Research (LASER). 	<p>collaborations</p> <ul style="list-style-type: none"> • Broad and long-standing relationships foster trust and enable problem solving and co-creation – both are critical success factors • Revenue generation is not/should not be the primary driver for universities to engage in technology and knowledge transfer – revenues are often overstated and set new technology transfer offices up for failure • Early, open, face to face communication is key to setting shared expectations (no emails!) • Industry does not generally set out to “exploit” universities, but they do have IP and legal expertise and expect universities to bring the same to the table • There continues to be a key role for governments in creating an enabling environment, particularly where IP regulation and enforcement are weak.
--	---

Perceived Strengths and Growth Opportunities

Prior to travelling to Washington DC, UASP fellows were asked to engage colleagues to complete a *Research Management 360* scoring matrix to help them reflect on key components of a healthy research ecosystem and to provide a snapshot of research management and knowledge transfer capacity in their institutions.⁵ The summary data below, and detailed data in [Annex B](#), is based on analysis of 25 independently completed Research Management 360 scoring matrices, reflecting perceptions of practice at 12 ARUA universities.

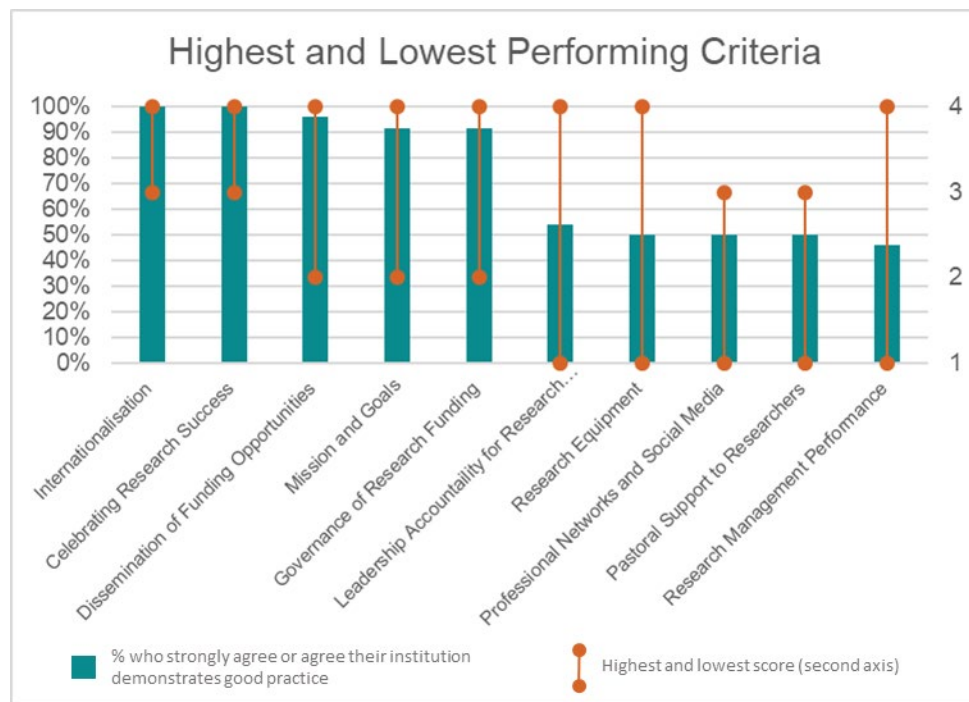
Fellows scored 75 individual criterion which combine into 8 categories of research management practice⁶ and each receive a composite score. The mean score for each category is presented in the chart, right. Participants from the ARUA network are collectively most confident in their universities'



⁵ The Research Management 360 is adapted from IREX's Higher Education Institutional Capacity Assessment Tool. Fellows were asked to consider the extent to which their institution demonstrates a range of described good practice criterion and to score from 1 to 4 where 1 = strongly disagree that the practice is evident and 4 = strongly agree that the practice is evident. Note, the tool was designed to encourage participants' reflection and was completed with minimal input and coaching from IREX – for this reason, the validity of the data is open to scrutiny. In the next cycle, IREX plans to make some methodological changes to the tool and its application, with the specific intent of generating robust research outputs.

⁶ Research Mission, Vision and Strategic Planning, Management of Sponsored Research, Research Governance, Research Data for Decision Making, Research Facilities and Equipment, Knowledge and Technology Transfer and Commercialization, Research Dissemination and Visibility, Researcher Development and Faculty Management.

research missions and visions, their capacity to manage sponsored research, and their research governance infrastructure. They are least confident about their universities' researcher development and career support, research reputation and visibility, and knowledge and technology transfer capacity.



However, *within* each category, there was significant variation, which can be explored in full in [Annex B](#). When detailed criteria are considered outside of their categories a more nuanced picture of perceived strengths and weaknesses emerges. Participants from the ARUA network are collectively most confident in their universities' internationalization efforts, strategies for celebrating research success, their dissemination of funding opportunities, their research mission and goals, and their

governance of research funding. They are least confident in their universities' tracking of research and research management performance data, the pastoral support they provide to researchers, researchers' capacity to leverage social media and develop professional networks, the sufficiency of their research equipment, and leadership accountability for agreed research outcomes. In the notes that accompanied the matrices, the most commonly raised observation was perceived barriers in translating written strategy and policy documents into day to day operational activities.

Separately, during their workshop in DC, fellows participated in a range of exercises to further reflect on their institutions' successes, challenges and performance. Fellows reflected on the governance structures for research at their institutions, considering standards and targets, policies and procedures, control monitoring and corrective action, the enabling environment – and the alignment (or otherwise) of these factors. While all institutions have research strategies, fewer have research volume targets, or quality standards or guidelines, including responsible conduct of research policies.⁷ A significant minority do not have clear IP and/or commercialization policies. The majority of fellows also believe that the quality of their institutions' data collection and use could also be improved with a lack of centralized data management a commonly cited challenge – indeed UASP has provided small grants to four fellows to develop these systems. Notably, fellows also felt that their institutions fell short in providing an enabling environment for their researchers with gaps identified in mentoring and researcher professional development around budget development, intellectual property, research conduct, and risk and compliance. See [Annex C](#) for details of perceived professional development strengths and weaknesses.

Gaps in knowledge and technology transfer and intellectual property capacity emerged at several points. Fellows identified that, while most institutions are transferring knowledge through teaching, publications, conferences, consultancy, collaborative and contract research, fewer transfer knowledge through social, civic and policy engagement, spin-outs, secondments and licensing. During this exercise, fellows were also asked to consider

⁷ This encompasses a wider set of practices than many research ethics procedures, which do exist in ARUA institutions.

key barriers and success factors impacting their institutions' knowledge and technology transfer activities. A range of barriers were shared, with poor faculty understanding of IP and knowledge transfer, lack of legal IP competencies and staff, institutions' publish or perish mentality, and weak local industry all identified as particularly problematic. On a more positive note, several fellows were able to point to marked improvements in technology transfer activities as a direct result of their institutions' engagement/recruitment of IP legal expertise, ARUA facilitated collaboration and the introduction of IP policies. More detail is provided in [Annex D](#).

Finally, fellows were asked to reflect on "pain and gain" factors for different actors in their universities' research ecosystems.⁸ This exercise preceded fellows' planning for their research management reforms so that their designs could address challenges wherever possible, and so that they could tailor their communication and engagement strategy to address fears and frustrations and leverage motivations. The dominant frustrations and motivation are shared below.

	Pain (Frustrations)	Gain (Motivations)
Faculty/Researchers	<ul style="list-style-type: none"> • poor workload management/high teaching load/not enough time for research • career stagnation • perceived disconnect between progression and performance • poor salaries • lack of recognition • isolation • publish or perish stress • lack of management accountability and continuity 	<ul style="list-style-type: none"> • popularity, exposure, respect and recognition • if action leads to results (momentum) • meritocracy • more support/professional development • job security • academic freedom • promotion and salary • funding for research • being part of the research groups (collegiality)
PhD Candidate/ Early Career Researcher	<ul style="list-style-type: none"> • fear failure • fear poor job prospects • isolation • poor supervision • lack of support and funding for research • exploitation 	<ul style="list-style-type: none"> • skills/knowledge for productive academic career • meaningful impact and engagement • status and recognition • job opportunities in and out of academia • funding • networking opportunities
School/College Management	<ul style="list-style-type: none"> • poor infrastructure • slow communication/inertia (from supervisees and supervisors) • financial challenges • lack of genuine support and mentorship • power challenges to influence top management • inflexible HR policies that lead to significant deadweight 	<ul style="list-style-type: none"> • establishment of supportive systems • motivated staff • improved grants and publication success rates • more impact
Senior Leadership	<ul style="list-style-type: none"> • lack of autonomy • lack of resources • fear of failure/ fear of losing position • pressure from government • unclear or changing government 	<ul style="list-style-type: none"> • good reports/ results • acknowledgement and appreciation • institutional collaboration • good support structures • impact - making a difference

⁸ To consider how their proposed performance improvement reforms might be received by and communicated to different stakeholders, fellows were asked to create "Empathy Maps" for key participants in the research ecosystem. Note, these exercises took place after their placement in a US university, so their perception of home practice may be influenced by what they observed.

Administration (Research Managers, HR, Registrar)	<ul style="list-style-type: none"> • policies • pressure from rankings • loss of opportunity • lengthy decision processes • lack of appreciation for challenges of role • internal conflict issues/ resistant staff 	<ul style="list-style-type: none"> • performance in teams • financial stability • motivated, supportive and effective staff • status and prestige
	<ul style="list-style-type: none"> • undervalued by senior management and faculty • insufficient funds to run admin units • insufficient admin skills to deal with international sponsored research • admin staff circulated so experience/capabilities lost • faculty complain of being overburdened. 	<ul style="list-style-type: none"> • mutual respect between admin and faculty • promoted as professionals • career progression opportunities • professional development opportunities • regulations followed and committees well serviced.

Key Observations on US universities

During and after their fellowship, fellows spent time reflecting on how the practices they observed in their host US universities were applicable to their home institutions and how lessons learned could be applied to their own practice. During the placement, fellows posted two blogs and engaged in rich discussion in our online forum. On return to DC, they were asked to work in groups to identify the key themes and lessons learned emerging from their experiences. A wide range of observations were made, but a manual analysis of the data revealed themes clustered into several categories, depicted in the table below.⁹ The illustrative quotes have been taken from fellows' blog posts and forum interactions.¹⁰

Cluster	Fellow observations
Data Informed Decision Making <i>"Penn State University really leverages the information collected without leaving it in siloes, and that is what I must take to University of Nairobi. I now recognize that we have a pretty good post-award grant data capture and reporting system, but we need to work on pre-award and output, and the uptake of the system."</i>	<ul style="list-style-type: none"> • Metrics driven/ never assume (7) • Power of feedback (4) • Data used to drive excellence; less obsession with rankings (3) • Use of pilots to test, abandon or scale reforms (2) • Data informed research resource mobilization strategy e.g. research space productivity indices, funding allocations • Annual faculty survey on research management.
Leadership and Accountability <i>"Learning about the Leadership Academy and the training offered"</i>	<ul style="list-style-type: none"> • Flat hierarchies and decentralized authority (6) • High performance accountability – performance has consequences (4) • Use of performance targets and feedback (individual and departmental,

⁹ In the 2016 UASP cycle, fellows' observations clustered into the following categories: research culture; visibility and communication; personal relationships; researcher pipeline and student engagement; libraries; strategic approach to research funding; collaboration and community engagement; data informed decision making.

¹⁰ While our focus here is on fellows' perceived opportunities for improvement, new ideas and approaches, it is notable that most fellows were also able to use the experience to ratify much of their home practice – "we're actually doing ok" and "they have the same challenges as us" were just as affirming as identifying gaps and new opportunities. One fellow noted, "I have discovered more about my own Institution. I sincerely commend our efforts for what we have achieved within the limits of the resources available to us. I find that when discussing with colleagues [in the US], I also have a lot to share and they have enquired if their students can visit my Institution on exchange visits." Another reflects, "I have observed challenges for HR management in US Universities and actually got one provost really thinking they could learn a lot from our HR processes."

<p><i>to Managers/Leaders at ASU has got me thinking. Leadership is everything and everything is leadership”</i></p>	<ul style="list-style-type: none"> • junior and senior) (3) • Consultative leadership based on shared data (2) • Leadership training (2) e.g. ASU Leadership Academy • Data informed performance management, which includes research and research impact.
<p>Actualization of Strategy <i>“The university’s strategic goals feed down to other levels; the research strategic goals connect with the various institutes and colleges’ goals. Everyone is informed and aware of the strategic goals and they are constantly foregrounded and referred to in our meetings - a proper dashboard and reminder of the purpose and direction ahead”.</i> <i>“Every research manager or administrator has internalized the university strategy and have adapted the strategy in the best way possible within their individual roles”</i></p>	<ul style="list-style-type: none"> • Purpose driven with widely known and shared common goal and expectations (6) • Planning oriented/well organized/strong processes (5) • Clear job descriptions/roles and responsibilities derived from strategy (4) • Strong systems/structures derived from strategy (3) • Dedicated strategy websites e.g. Penn State and Florida State • Dedicated strategy metrics and tracking e.g. nuventive • Strategic objectives are foregrounded at the start of each meeting (2) • Comprehensive guidelines derived from strategy • Documentation and integration of strategy leads to good institutional memory • Staff university-wide are engaged in strategic planning through interest group meetings, working groups, and town hall meetings • Seed Grants are provided for Strategic Plan goals and anyone can apply for these (including postgrads) • Regular meetings to keep focused on strategic goals (e.g. URC and other committees (Institute Directors committees, Deans committee, etc.) meet monthly.
<p>Peer Learning and Collegiality <i>“In the College of Education and Human Development they have a day dedicated to professional development – Professional Development Wednesday – once a month. Senior and junior faculty meet to reflect on a specific aspect of professional development. Junior faculties get to learn from their seniors hence helping them to increase their knowledge and skills in research undertaking.”</i></p>	<ul style="list-style-type: none"> • Writing groups/retreats/groups for students and faculty (11) e.g. the writing center at MSU, CSU Writes • Learning/helping/high quality work environment (5) • Formalized and supported mentoring/coaching (4) • Formative internal peer review of papers and proposals (3) • Consultant external review of high value proposals • Dean's exchanges to discuss capacity building • PhD cohorts to build collegiality, peer support and professional development • Internal research symposium and conferences • flat hierarchies, reduced teaching loads, participatory and collaborative decision making, strong university identities, and robust support structures all promote collegiality and individual motivation • Training, mentoring and sensitization is a continuous process
<p>Enabling Environment <i>“Research administration support and workload allocation inclusive of research shows the priority and commitment Spartans give to research in comparison to institutions where research may suffer when Faculty are overloaded with teaching and administrative duties!”</i></p>	<ul style="list-style-type: none"> • Professional development for research administrators so they can adequately support faculty (5) e.g. training programs at Rutgers • Structured professional development for early career researchers e.g. Junior Faculty Development Program at Penn State University (5) • Engagement of new faculty by the research office during onboarding (4) • Seed, pilots, and bridge grants (4) • Professionalization of researchers (3) • Protected professional development time e.g. 10% LOE for a one-year professional development program; “Professional Development Wednesdays” • Use of external training providers e.g. CITI, Lynda.com • Support for proposal writing • Protected time for research in faculty workload models
<p>Leveraging Digital and Online <i>“The complexity and sophistication of electronic</i></p>	<ul style="list-style-type: none"> • e-research management to reduce burden and improve data (8) • Effective use of website/social media to enhance visibility (6) • Extensive use of Open Educational Resources/Open access support (3)

<p><i>research administration systems at PSU to assist researcher, research administration and executive management for strategic-decision purposes, provides many exciting opportunities... Some PSU systems are home-grown while others are bought off-the-shelf. Interestingly, of the “Big Ten” universities that PSU benchmarks itself against, all use home-grown pre-award electronic systems.”</i></p>	<ul style="list-style-type: none"> • Crowdfunding (3) – sometimes institutionalized such as ASU's PitchFunder • Vast array of data collection tools which mostly “talk to each other”, though some institutions still struggling with this (3) • Software for tracking alumni • Recruitment events and collaboration • Online tools for development and approval of proposals • One-stop-shop for research related information.
<p>Branding, Marketing and Engagement</p> <p><i>“My meeting with the Strategic Marketing and Communications team was spectacular. It is so clear that there is an intentional, thought-through strategy to disseminate and promote research; this inadvertently enhances the reputation of ASU while motivating Researchers to do more.”</i></p>	<ul style="list-style-type: none"> • Community/public/civic engagement (8) • Regional liaison offices/ extension teams (6) • Public Relations/communications/liaison experts (6) • Strategic and sustained institutional relationships encompassing teaching, research and extension (3) • Elevator pitch • Liaison offices in Government establishments • Promotional marketing creates a "positive vibe".
<p>IP Identification, Protection and Exploitation</p> <p><i>“The University has put much emphasis on technology commercialization – [and uses the mantra] “protect, publish then present”. 70% of research has been licensed before publication – and all papers are sent to the intellectual property office before publication to check if there is a need for protection of intellectual property”.</i></p>	<ul style="list-style-type: none"> • Strong focus on IP/Commercialization/Entrepreneurship (12) • Strong industry engagement (9) • Systematic invention/IP review (7) • Large number of invention disclosures (2) • Staff training in IP, commercialization and entrepreneurship • Student engagement in entrepreneurship e.g. the Wond'ry at Vanderbilt and Invent Penn State • Incentives for commercialization.

CONCLUSION

Strong institutional brands, clear research missions, a deepening pool of research expertise and robust international partnerships mean that leading institutions are well positioned to access international funding and research alliances and build strong relationships with governments and the private sector. However, in an era of tightening research funding and growing competition, institutional leaders must pay attention to issues that hamper their ability to meet performance objectives. Our interactions with mid- and senior research leaders highlight perceived gaps in strategic management, governance and data which drive low accountability and inertia. Better people management and professional development are needed to improve motivation and capability and institutions need assistance in “looking out” whether that be a more systematic approach to knowledge and technology transfer, supporting faculty to build professional networks, or building marketing and communication capability. IREX will take these lessons into account when designing future higher education programming.

Turning Learning into Practice

From the exit survey of our UASP fellows, we know that 94% of fellows strongly agreed¹¹ that the program improved their understanding of research management and 84% of fellows strongly agreed¹² that the program improved their ability to strengthen research management at their home institution. Lack of institutional support and finances were the biggest perceived barriers to improving practice when they returned home. The impact of the UASP program is built on the assumption that IREX **builds** the capacities of individuals, individuals **apply** capacities to their practice, individuals **spread** good practice to others, and systems **change** as a result. Implementation and institutional support are key pillars to enable this to happen.

IREX supports this as far as it can – through coaching fellows to develop an implementation plan and through providing competitive small grants. Institutional support is just as important and – if you have not yet had opportunity to do so – we encourage you to sit down with UASP alumni in your institution. Fellows have dedicated significant time reflecting on their experiences and we believe they have useful insights to offer. See [Annex E](#) for a list of implementation plan topics and small grant recipients from current and past UASP cycles.

What's Next?

IREX will be convening approximately 30 research management alumni for a dissemination event in November. We are currently working with the ARUA secretariat to align this with the ARUA Annual Conference in Nairobi. Further details will be forthcoming.

For comments or queries relating to this report, please contact Dr. Rebecca Ward at rward@irex.org.

¹¹ The remaining 6% agreed.

¹² The remaining 16% agreed.

ANNEX A: COMPILED PESTLE AND SWOT

<p>Political</p> <ul style="list-style-type: none"> • International harmonization/international alliances - can get locked out • Frequent changes to education system/priorities • Minimal understanding of HE in public/private sectors • Emergence of ARUA and other regional networks • Transformation • Student protest movements • Geopolitical shifts – China, Russia 	<p>Strengths</p> <ul style="list-style-type: none"> • Reputation/ brand (6) • Wide range of research topics/programs (4) • International partnerships (3) • Human capital (2) • Unions empowered to bargain (2) • Good working relationships • Large student population • Spacious campuses • Strategic planning includes research • Interdisciplinary research • Admin support • Internal funding opportunities • Support for publication • Career development • ICT infrastructure • Internal conflict resolution • Clear vision and strategy • Good reporting and institutional data • Support to conference attendances 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Poor funding/resource (5) • Low waged worker fatigue/motivation (4) • Weak CPD (4) • Lack of admin skills (3) • Poor institutional data (3) • Uncooperative unions (3) • Weak M&E/ accountability (2) • Poor business practice • Weak leadership • Highly centralized • Structural instability • Poor scholarship base and grants • Gender diversity • Vulnerability to political interventions • Poor workload allocation/management • Bureaucratic • Poor succession planning • Student unrest • Poor student faculty ratio • Declining HR loyalty • Poor media relations • Lack of follow through • Lack of e-management • Poor student retention • Focus v practice
<p>Economic</p> <ul style="list-style-type: none"> • Decrease/change in govt. funding • Mushrooming private universities • Commercialization of HE • Dependence on currency exchange rates • Developing private sector 	<p>Opportunities</p> <ul style="list-style-type: none"> • International Partnership (7) • Emerging (int.) funding (3) • Leverage strong alumni (3) • Leverage strong relationship with govt. (2) • Developing private sector (2) • Social media – opportunities for global reach • Crowdfunding • Geopolitical advantage • National/political reform • Almost free education • Political stability • Promoting African journals • Digital management systems • Emerging economic sectors • Strategic location • Regional reputation • Engagement with communities • International student exchanges 	<p>Threats</p> <ul style="list-style-type: none"> • Political unrest/insecurity (6) • Decreasing state funding (4) • Competition (4) • Brain drain (2) • Low accountability (2) • Locked out of alliances (2) • IP litigation/exploitation (2) • Social media reputational harm • Cyber insecurity • Resistance to reform • Admin. bottlenecks • High turnover • Aging faculty • Bureaucracy • Internal competition • Undue govt. interference • Party politics • Interference with academic records/documents • Transformation policy • Student under-preparedness
<p>Societal</p> <ul style="list-style-type: none"> • Inequality/civil/student unrest • Youth boom • Braindrain • Population change • Immigration • Low salaries • Youth expectations (TVET) • Poverty 	<p>Technological</p> <ul style="list-style-type: none"> • Misuse/abuse of technology • Social media • Increased availability of tech • Open access movement / online sources • Speed of technological change • Tech innovation e.g. virtual collaboration • Load-shedding 	<p>Legal</p> <ul style="list-style-type: none"> • Increasing litigation and cost • IP litigation
<p>Environmental</p> <ul style="list-style-type: none"> • Green campus/sustainability • Industrial action • Water scarcity • Municipal services • Geographic location • Security/crime concerns 		

ANNEX B: RESEARCH MANAGEMENT 360, DETAILED DATA

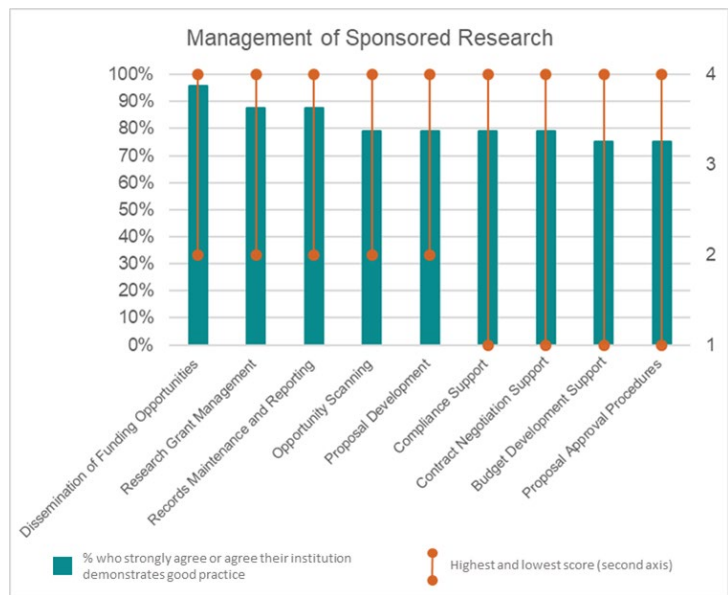
Research Mission and Vision

- Fellows were most confident about the quality of their institutions' mission and goals
- Fellows were least confident about the quality of their institutions' internal and external analysis to inform strategic planning.



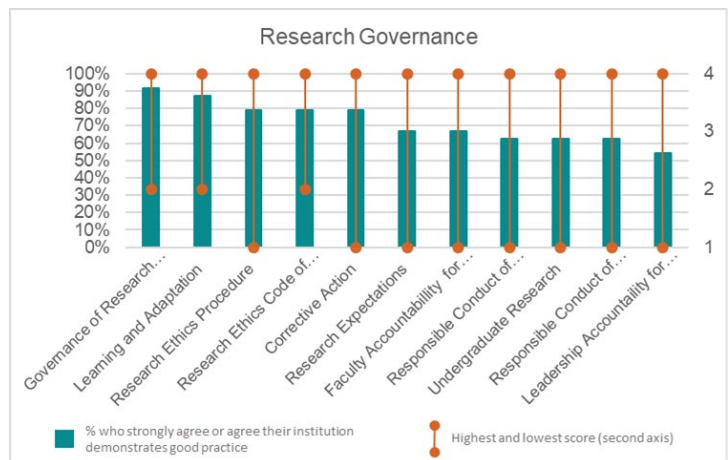
Management of Sponsored Research

- Fellows were most confident about the quality of their institutions' dissemination of funding opportunities to faculty, research grant management and records maintenance and reporting
- Fellows were least confident about the quality of their institutions' proposal approval procedures, budget development support and contract negotiation support.



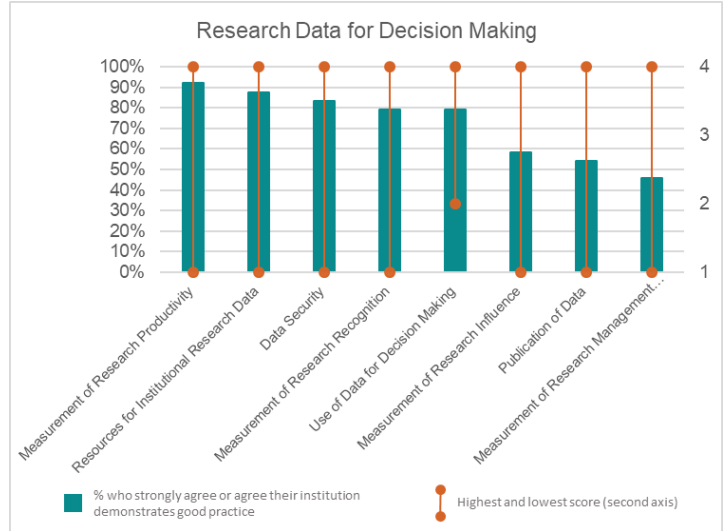
Research Governance

- Fellows were most confident about the quality of their institutions' governance of research funding, learning and adaptation, and research ethics procedures
- Fellows were least confident about the quality of their institutions' approach to responsible conduct of research, leaderships' accountability for research outputs and faculty accountability for research outputs.



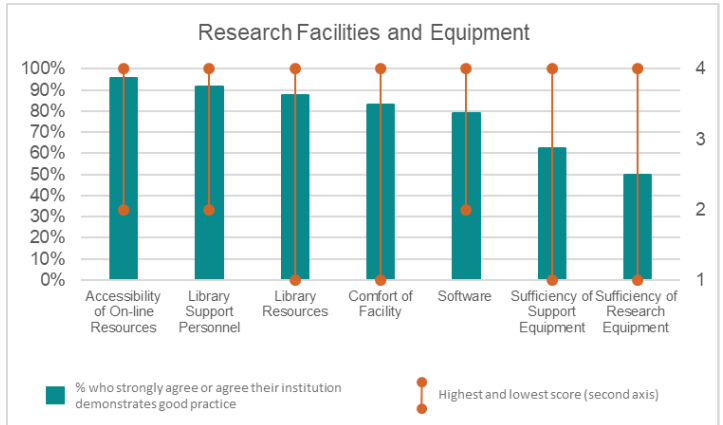
Research Data for Decision Making

- Fellows were most confident about the quality of their institutions' tracking of research productivity, resources for institutional research data, and data security.
- Fellows were least confident in their institutions' use of data to track research management performance, publication of institutional data and measurement of research influence..



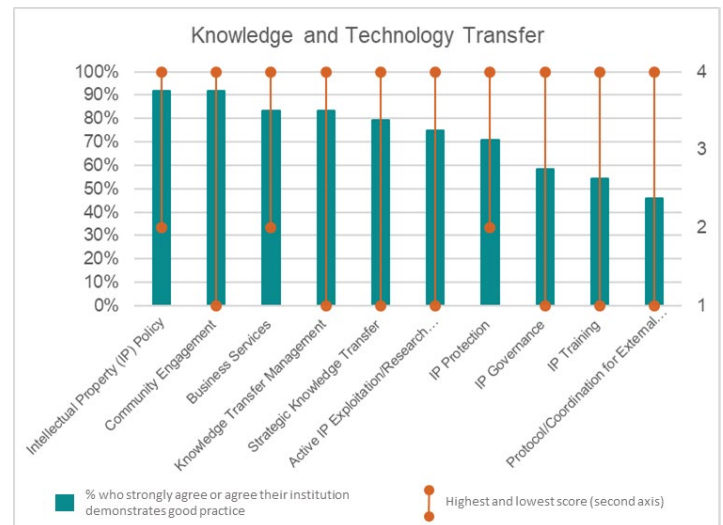
Research Facilities and Equipment

- Fellows were most confident about the accessibility of on-line resources, quality of their institutions' library support personnel, and library resources
- Fellows were least confident about the quality of their institutions' research equipment, support equipment and software.



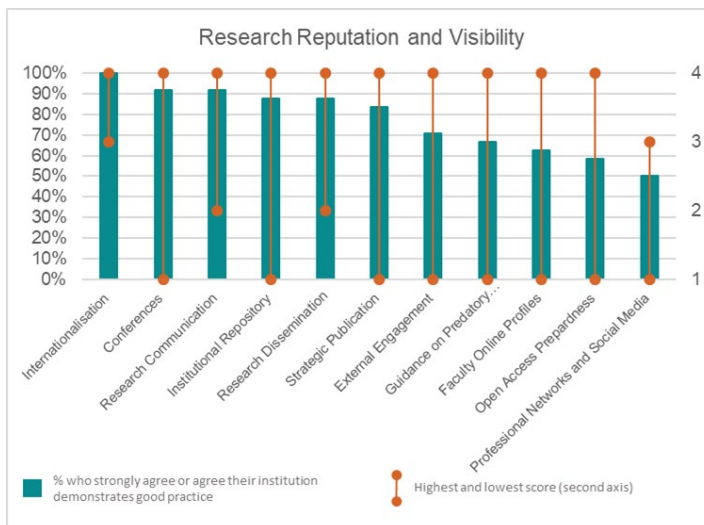
Knowledge and Technology Transfer and Commercialization

- Fellows were most confident about their institutions' intellectual property policies, community engagement and provision of business services
- Fellows were least confident about the quality protocols and coordination for external relationships, IP training and IP governance.



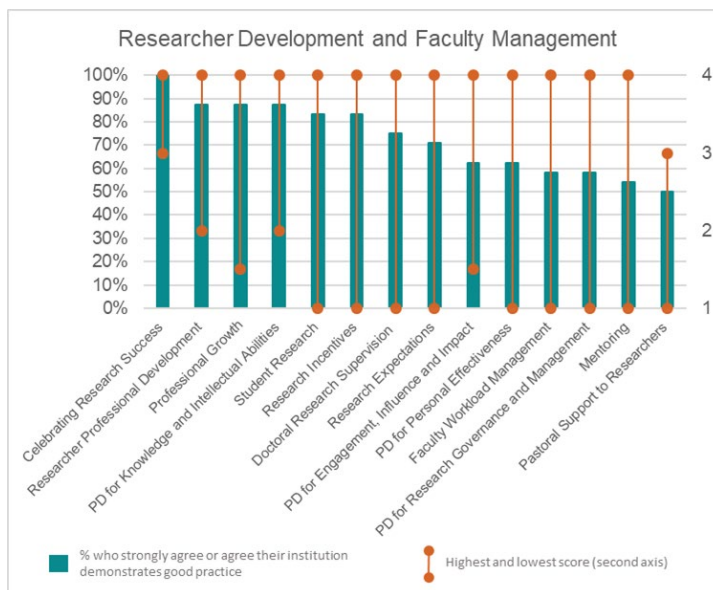
Research Reputation and Visibility

- Fellows were most confident about the quality of their institutions' internationalization, engagement with conferences and research communication
- Fellows were least confident about the quality of their institutions' use of professional networks and social media, open access preparedness, and faculty online profiles.



Researcher Development and Faculty Management

- Fellows were most confident about the quality of their institutions' strategies for celebrating research success, researcher professional development and opportunities for professional growth
- Fellows were least confident about the quality of their institutions' pastoral support to researchers, mentoring, and development of researchers' governance and management skills.



ANNEX C: PERCEIVED PROFESSIONAL DEVELOPMENT PERFORMANCE

During the Opening Workshop, fellows used the [Vitae Researcher Professional Development Framework](#) to reflect on the scope and quality of professional development for early career researchers in their own institutions. The table below details the professional development topics that most fellows feel are adequately addressed in their institutions, that most fellows feel are inadequately addressed, and those topics that suggest a mixed picture across the ARUA network.

Note, since this exercise took place before their placement in a US university, their perception of home practice is not influenced by their observations of US practice.

Majority Identify as Professional Development Strengths	Mixed Picture	Majority Identify as Professional Development Weaknesses/Omissions
Research Governance & Organization		
<ul style="list-style-type: none"> Research Ethics 	<ul style="list-style-type: none"> Financial Management Project Planning and Management Professional conduct/responsible conduct of research 	<ul style="list-style-type: none"> Risk Management Finding Funding
Engagement, Influence & Impact		
<ul style="list-style-type: none"> Supervision Collaboration Publication 	<ul style="list-style-type: none"> Communication and media Team working/people management 	<ul style="list-style-type: none"> IP/Enterprise/commercialization Mentorship
Personal Effectiveness		
<ul style="list-style-type: none"> Networking 	<ul style="list-style-type: none"> Career development/management 	<ul style="list-style-type: none"> Self-management Time management/work-life balance
Knowledge & Intellectual Abilities		
<ul style="list-style-type: none"> Subject theoretical knowledge Research methods Teaching/Lecturing 		<ul style="list-style-type: none"> Intellectual risk Critical thinking

ANNEX D: PERCEIVED KNOWLEDGE AND TECHNOLOGY TRANSFER PRACTICE

Fellows were asked to consider a range of “knowledge and technology transfer activities” and to identify if and where in their institution responsibility for these sits. Note, this list was not exhaustive. Rather it was intended to stimulate broader discussion about different types of knowledge and technology transfer. Similarly, numbers are indicative since some fellows worked individually and others in groups. There are some clear gaps in the data which may be a function of fellows running out of time, being unsure about the status in their institution or being reluctant to identify tasks as does not have/do. The data is therefore presented with these limitations in mind.

	Systematically/ Routinely	Occasionally	Does not do
Patenting	5	6	2
Licensing	3	6	5
Contract Research	11	1	1
Collaborative Research	14		
Social/civic/policy engagement	1	1	
Consultancy Services	11	5	
Collaborative Resources	1		
Facilities hire	9	3	1
Conferencing	10	4	
Publishing	13	1	
Networking	10	3	
Student Placements	11	3	1
Secondment	3	7	1
Teaching	13		
Training	12	4	
Spin-out	2	2	8
Personal Exchanges	5	7	

During this exercise, fellows were also asked to consider key barriers and success factors impacting their institutions knowledge and technology transfer. A range of barriers and success/enabling factors were shared, with the following clusters emerging:

Barriers

- Poor faculty knowledge transfer skills (8)
- Lack of legal/IP law competencies (4)
- Publish or perish mentality fails to incentivize knowledge transfer (4)
- General lack of IP staff (3)
- Local industry not sufficiently strong (3)
- Faculty want personal rewards (2)
- Lack of IP training/support (2)
- Sponsor restrictions (2)

Enabling Factors

- Recruited lawyers/IP expertise (4)
- ARUA facilitated collaboration (3)
- Introduced IP Policies (3)
- Established TTO office (2)
- Focused on policy advising (2)

ANNEX E: UASP ALUMNI AND SMALL GRANT RECIPIENTS

UASP Alumni from the 2016/17 and 2018/19 Cycles¹³

Institution at time of placement	Year	First Name	Last Name	Host Institution	Implementation Plan
Addis Ababa University	2019	Samuel Tefera	Alemu	University of Wisconsin, Madison	Establishing a research support and development unit in the College of Social Sciences
Addis Ababa University	2019	Abebaw Yirga	Adamu	University of Missouri	Enhancing the enabling environment for effective research management
University of Cape Town	2019	Paula	Saner	University of California Berkeley	Establishing a responsible conduct of research training programme at the University of Cape Town
University of Cheikh Anta Diop	2019	Ndiaye	Abdoulaye	Michigan State University	Establishing a pre-award administration unit at UCAD
University of Dar es Salaam	2019	Edwin	Babeiya	Georgia State University	Enhancing research governance at the University of Dar es Salaam
University of Dar es Salaam	2018	Frolence	Rutechura	Michigan State University	Research and publication capacity building at the University of Dar es Salaam
University of Ghana	2019	Blankson	Barbara	Arizona State University	Enhancing administrative processes to support research at the University of Ghana
University of Ghana	2018	Diana	Owusu Antwi	Penn State University	Developing an industry engagement strategy at the University of Ghana
University of Ghana	2018	John	Anoku	Iowa State University	Maximizing research impact through publication, dissemination and translation
University of Ghana	2016	Abena	Engmann	Iowa State University	Providing resources and tools for researchers at the College of Health Sciences, University of Ghana
University of Ghana	2016	Beatrice	Sakyibea	Arizona State University	Developing a pre- and post-award manual for University of Ghana
University of Ghana	2016	Paa	Turkson	University of California-Davis	Establishing and implementing training in responsible conduct of research at the University Ghana
University of Ibadan	2019	Adesola Oluwafunmilola	Olumide	Vandabilt University	Adapt and pilot a researcher development training curriculum in the College of Medicine
University of Ibadan	2018	Adeola	Oladeji	University of Nebraska-Omaha	Development of an electronic research administration system for the University of Ibadan

¹³ Note, UASP has focused on research management and research ecosystems for the past two cycles. Prior to 2016, the UASP had a general university administration focus.

University of Ibadan	2018	Olumuyiwa	Desmennu	University of Kentucky	Development of an electronic research administration system for the University of Ibadan
University of Ibadan	2017	Abiodun	Akindele	University of California-Davis	Developing a Research Compliance and Integrity Policy for the University of Ibadan
University of KwaZulu Natal	2018	Wilondja	Muzumbikilwa	University of Nebraska-Omaha	Improving the research office website to align with the research management life cycle at UKZN
University of Kwazulu Natal	2017	Clement	Matasane	Ball State University	Online research management support platform and researcher competencies training for PhD students
University of Kwazulu Natal	2017	Moses	Chimbari	University of Arizona	Online research management support platform and researcher competencies training for PhD students
University of Lagos	2018	Omobolanle	Ade-Ademilua	Penn State University	Establishing a translational research culture at the University of Lagos
University of Lagos	2017	Olufemi	Hodefe	Northwestern university	Strengthening research administration & research support programs at the University of Lagos
University of Lagos	2016	Helen	Adekanmbi	University of Delaware	Transforming the University of Lagos Research and Innovation Office
University of Lagos	2016	Morounfolu	Aramide	Kennesaw State University	Enhancing research interest at the University of Lagos
Makerere University	2019	Umar	Kakumba	Binghamton University	Building institutional capacity for researcher development and management of sponsored research
Makerere University	2019	Maureen	Mayanja	Michigan State University	Institutionalizing extension in the College of Veterinary Medicine, Animal Resources and Bio-Security
Makerere University	2018	David	Owiny	Vanderbilt University	Developing policies for a centralized grants management function at Makerere University
Makerere University	2018	Fredrick	Muyodi	Michigan State University	Establishing a research support (grants) office in the College of Natural Sciences
Makerere University	2017	Henry	Zakumumpa	Florida State University	Establishing an Office of Sponsored Programs in the College of Veterinary Medicine
MEST, Kenya	2016	John	Ayisi	Tennessee Higher Education Commission	Proposal writing and grant management training to early career researchers across Kenya
University of Nairobi	2019	Johnson	Kinyua	Arizona State University	Establishment of Technology Transfer, Licensing and Commercialization Office at University of Nairobi
University of Nairobi	2019	Rosemary Achieng	Omwandho	Penn State University	Collection, management and use of data for decision making: improving the collection and use of research profile data at the University of Nairobi
University of Nairobi	2018	John	Maina	Colorado State University	Establishing a publication and mentorship enhancement program for early career researchers in the School of Biological

					Sciences
University of Nairobi	2016	Tonny	Omwansa	Vanderbilt University	Strengthening commercialization of research in universities in East Africa region
University of Pretoria	2018	Nthabiseng	Taole	Rutgers University	Establishing a crowdfunding program for early career researchers
Rhodes University	2019	Noelle	Obers	Penn State University	Enhancing electronic information management systems to support researcher development, research management and strategic decision making at Rhodes University
University of Rwanda	2018	Celestin	Ntivuguruzwa	Northwestern University	Strengthening the management and coordination of postgraduate research programs at UoR
University of Rwanda	2018	Jean	Gahutu	Vanderbilt University	Strengthening research management at the University of Rwanda College of Medicine and Health Sciences

UASP Small Grant Recipients from the 2016/17 and 2018/19 Cycles

Institution at time of placement	Year	First Name	Last Name	Small Grant (\$6,000 - \$16,000)
Makerere University	2019	Umar	Kakumba	Building institutional capacity for researcher development, funding and management of sponsored research
University of Nairobi	2019	Rosemary Achieng	Omwandho	Collection, management and use of data for decision making: improving the collection and use of research profile data at the University of Nairobi
University of Cheikh Anta Diop	2019	Ndiaye	Abdoulaye	Establishing a pre-award administration unit at UCAD
Rhodes University	2019	Noelle	Obers	Enhancing electronic information management systems to support researcher development, research management and strategic decision making at Rhodes University
University of Ibadan	2018	Moses Adeola	Desmennu Oladeji	Development of an electronic research administration system for the University of Ibadan
University of Lagos	2018	Omobolanle	Ade-Ademilua	Establishing a translational research culture at the University of Lagos
Makerere University	2018	Fredrick	Muyodi	Establishing a research support (grants) office in the College of Natural Sciences
University of Ghana	2018	Diana	Owusu Antwi	Developing an industry engagement strategy at the University of Ghana
University of Pretoria	2018	Nthabiseng	Taole	Establishing a crowdfunding program for early career researchers
University of Ibadan	2017	Abiodun	Akindele	Developing a Research Compliance and Integrity Policy for the University of Ibadan

University of Kwazulu Natal	2017	Moses Clement	Chimbari Matasane	Online research management support platform and researcher competencies training for PhD students
Makerere University	2017	Henry	Zakumumpa	Establishing an Office of Sponsored Programs in the College of Veterinary Medicine
MEST, Kenya	2016	John	Ayisi	Proposal writing and grant management training to early career researchers across Kenya
Makerere University	2016	Nsubuga	Henry	Digital Badging for 21 st Century Skills (Oral Communications Badge)

UASP Alumni Pre-2016

Year	First Name	Last Name	Institution at time of placement	Host Institution	Topic Area
2015	Obaapanin	Adu	University of Education - Winneba	North Carolina A&T State University	Campus Life/Student Services
2015	Gerald	Ouma	University of Pretoria	Cornell University	Institutional Research
2015	Bahati	Dyegula	University of Dar es Salaam	Appalachian State University	Admissions Management
2015	Afua	Yeboah	University of Ghana	University of North Carolina - Chapel Hill	Research Management
2015	Evarist	Bainomugisha	Makerere University	Rutgers University	University Financing
2015	Henry	Nsubuga	Makerere University	Florida State University	Career Services
2015	Margaret	Etuusa	Makerere University	University of Minnesota	Campus/Student Services
2014	Johann (Yaw)	Sekyi-Baidoo	University of Education - Winneba	Eastern Washington University	University Governance/Trustee
2014	Gloria	Ladislaus	University of Dar es Salaam	Virginia Tech	Strategic Planning
2014	Pius	Achanga	National Council for Higher Education, Uganda	Tennessee Higher Education Commission	University Governance/Trustees
2014	Constant	Okello-Obura	Makerere University	George Mason University	Research Management
2014	Tayari (Deus)	Mujuni	Makerere University	University of Arkansas	Human Resources Management
2014	Vincent	Ekwang	Makerere University	Montclair State University	Admissions Management
2013	Francis	Akrono	University of Education - Winneba	University of South Carolina	Human Resources Management
2013	Edwin	Mashayo	University of Dar es Salaam	University of Arkansas	Human Resources Management
2013	George	Habib	University of Ghana - Legon	Ohio University	University Financing

2013	Mary	Tizikara	Makerere University	Kent State University	Human Resources Management
2013	Philip	Kwesiga	Makerere University	Montclair State University	Academic Department Management
2013	Stephen	Kateega	Makerere University	Indiana University	Campus/Student Services
2012	Augustus	Brew	University of Education - Winneba	Montclair State University	Admissions Management
2012	Jerry	Anyan	University of Education - Winneba	Kent State University	Fundraising
2012	Daniel	Stephen	University of Dar es Salaam	University of Nebraska - Omaha	Government Relations
2012	Noela	Jonathan	University of Dar es Salaam	University of Missouri - Columbia	Corporate/Industry Relations
2012	Patrick	Mutimba	Makerere University	Rutgers University	Fundraising /Research Development
2011	Anna	Ackom	University of Education - Winneba	University of Nebraska-Omaha	Human Resource Management
2010	Andy	Agordah	University of Education - Winneba	George Mason University	Admissions Management
2010	Felicia	Takramah	University of Education - Winneba	Bowling Green State University	Alumni Relations
2010	Emmanuel	Osam	University of Ghana - Legon	University of Central Florida	Faculty Development
2010	Lydia	Nyako	University of Ghana	Kent State University	Strategic Planning

IREX

1275 K Street NW, Suite 600

Washington, DC 20005, USA

+1 (202) 628-8188

irex.org | communications@irex.org