

Future Africa Institute

Early Career Research Leader Fellowship

Submission closing date: 30 April 2018

The University of Pretoria's Future Africa Institute invites applications for Postdoctoral Research Fellowships, working within an inter- and transdisciplinary approach to developing a deeper understanding of the African bioeconomy. For purposes of this call, "bioeconomy" is defined activities that make use of bio-innovations, and are based on biological sources, materials and processes to generate sustainable economic, social and environmental development.

Applications are welcome for such topic areas as:

- Technological and non-technological exploitation of natural resources such as animals, plant biodiversity, micro-organisms and minerals to improve human health, address food security, and subsequently to contribute to economic growth and improved quality of life.
- Ecological issues and climate change as influencers, promoters, and inhibitors of bioeconomic advancement.
- The politics of the bioeconomy, including tensions around land and food security, biodiversity and indigenous knowledge, and economic growth and growing income insecurity and inequality.
- Cultural perspectives and practices that influence, assist, or impair human interactions with the natural environment.

This early-career fellowship will aim to develop research leadership to fill a critical gap in the African research capacity ecosystem. Emerging research leaders in the natural and social sciences and humanities are encouraged to apply for this fellowship to help address Africa's most urgent challenges and opportunities to develop a sustainable and inclusive bioresource-based economy.

Background

The complexity and scale of the development challenge—as captured by the objectives of the United Nations Sustainable Development Goals (SDGs) and the African Union's Agenda 2063 (amongst others)—require a radically different and disruptive approach to scientific discovery and innovation.

This program supports a goal-oriented and interconnected approach to research that connects various disciplines in the natural and social sciences and the humanities that are affected by, or engage with, specific goals shared by scholars, practitioners in industry and non-governmental organizations, and policymakers (transdisciplinarity). The program proposes a new model for research leadership training in Africa at the intersection of disciplines, industry, government and civil society.

This process aims to stimulate mutual learning in different parts of science and society by seeking joint problem-solving activities to create sustainable solutions in a real-world context.

Overview of the Program

The Early Career Research Leader Fellowship is an initiative of the University of Pretoria's Future

Africa Institute, funded by Carnegie Corporation of New York. It serves early career research leaders in basic and applied sciences, engineering, social sciences, the humanities and the arts. It aims to grow African academics in their thought leadership, team development, stakeholder engagement, and collaboration with an intention to stimulate the emergence of centers of research excellence to solve complex problems that face Africa and the world.

The program design for the Early Career Research Leader Fellowship *will aim to stimulate new thinking on the perceived frontiers of science to produce theoretical frameworks for transformation, develop novel questions and/or novel approaches to old and emerging new questions with a focus on adaptability, resilience, and co-design of systems for sustainable and equitable development in Africa.*

Program Structure

In recognising the need for transdisciplinary research collaborations, in the form of cross-cutting research themes, this program includes opportunities to develop research networks, support for translation previous research into publications, and provide mentorship for the development of a research agenda and the start of resident programs at the home institution. Seed funding to address these outcomes for the fellow will be provided.

Other objectives of the program include:

- Functioning in a twinned, split-site approach with the home institution to strengthen the research of the fellow at her/his home institution as well as the hosting institution;
- Using the project as a basis to launch or advance the development of a research program at the home institution of the fellow;
- Promoting interaction between a University of Pretoria researcher and academic leaders at the home institution of the fellow;
- Exposing the fellow to a structured skills development program; and
- Integrating the fellow into a Pan-African network of researchers.

The Early Career Research Leader Fellowship Program will follow a two-phase implementation plan:

1. During the first year, the focus will be on skills development of the individual, active assessment of the landscape of the research challenge and development of inter- and transdisciplinary elements of the research project.

The fellow will be guided in the identification of other relevant disciplines and contact with at least one collaborator from a second discipline to that of the applicant and supervisor, as well as relevant sectors of society (from civil society, government and/or industry).

Interaction with the stakeholders will comprise the design of either a workshop or survey to assess the needs and potential opportunity for collaboration and research. This information will feed into a process of revising and refining the research proposal, which will be assessed by peers in the group, learning from each other and contributing to the development of each others' projects.

2. During the second year of the fellowship, peer assessment and reflection will continue for the development and eventual implementation of the research projects.

Regular interaction with industry, civil society organisations, and policy makers to critique research approaches and proposals will be maintained, specifically designed to stimulate critical review of research questions and produce a more effective and inclusive transdisciplinary problem statement and suggested pathways for investigation.

The **leadership development component** of the program uses a highly interactive approach to training, application of skills to a leadership project, peer support, and mentorship. Fellows will attend an initial 5-day, intensive on-site program, cycling between theory, application, and reflection. Participants are challenged to work collaboratively to design initiatives that advance a new paradigm for African science.

This development program will include:

- Core elements of collective leadership
- Creative and systems thinking
- Development of effective networks
- Stakeholder engagement for change
- Optimising the efficiency and impact of collaborative efforts
- Advanced dialogue and communication skills, in particular, emphasis on the qualitative representation of quantitative results, from written narratives, through graphic visualisations, to multi-media presentations
- Effective problem solving and decision making

During the remainder of the first year of the fellowship, participants will continue to engage with the group and have access to professional support.

During the second year of the program, fellows will complete their projects and present them at the second leadership development training intervention, which will consist of a 3-day intensive on-site workshop.

Other **structured training** of the program will include:

- Approaches to inter- and transdisciplinary research;
- Leadership for research program development;
- Science communication and advice for knowledge transfer;
- Critical research skills, such as writing, project design, measures of excellence.

Fellows would be required to attend all workshops (approximately two weeks in person, followed by experiential learning and implementation throughout the fellowship).

Expected commitment

The Early Career Research Leader Fellowship Program seeks candidates who are committed to developing a new generation of scholars and research leadership in Africa.

The program itself will require that at least 70% (8-9 months) of the academic year is spent at the Future Africa Campus of the University of Pretoria. Furthermore, fellows will be expected to develop their research leadership projects and engage with other fellows for peer support.

Training and development components of the program will require onsite engagement with a

number of different audiences for the duration of the stay at Future Africa. These will be integrated into an overall schedule to allow for participation in the advanced workshops and other skills transfer mechanisms envisaged to ensure the efficacy of the fellowship.

The Fellowship will carry the bulk of the costs associated with the program, including accommodation, meals, and allowances for attending one conference as well as traveling to the home institution once per annum. Costs for visas, vaccinations, travel and medical insurance, and travel not related to the academic content of the program will not be covered by the program.

Mentorship and network development

Fellows will be required to participate in a structured mentorship system. This will include:

- Each fellow will have research mentors at both the home and host institutions;
- Each fellow will be paired with a career mentor at Future Africa, other than the research mentor. Guidance will be given for the expectations from such mentorship relationships, including support for 'upward connection' in the research system, discussions on an academic career, structures and systems, and research program and institutional development; and
- Fellows will be required to act as a mentor to four Future Africa resident Ph.D. students to share their experiences from training workshops with these students.

Interaction within these groups will be actively sought through alignment and integration of contact sessions, as well as shared communication networks, thus contributing to the pool of African expertise and expanding the effective reach of the growing Pan-African networks.

Selection criteria

The program will select fellows from among the doctoral graduates and early-career postdoctoral fellows linked to networks and initiatives supported by Carnegie Corporation New York. Eligible programs are:

- African Humanities Program
- Consortium for Advanced Research Training in Africa (CARTA)
- University of Cape Town (Corporation-supported doctoral and postdoctoral fellows)
- University of Ghana (Corporation-supported doctoral and postdoctoral fellows)
- Makerere University (Corporation-supported doctoral and postdoctoral fellows, plus MISR doctoral graduates)
- Next Generation Social Sciences in Africa Fellowship Program
- Networks comprising the Regional Initiative in Science and Education (RISE): AFNNET, AMSEN, SABINA, SSAWRN, WIO-RISE
- Regional Universities Forum for Capacity-Building in Agriculture (RUFORUM) (Corporation-supported doctoral fellows)
- University of the Witwatersrand (Corporation-supported doctoral and postdoctoral fellows)

Fellows should ideally have a position at a home institution, or have a commitment from a home institution to support or consider a future position.

Research projects will be considered and developed on the broad topic of inclusive growth and development through the bio-resource economy, which has been selected for its relevance to development in Africa. Agriculture and indigenous bio-resources are in need of urgent

development and protection and represent some of the most significant untapped sources of sustainable socio-economic development. Perspectives from the arts and humanities relevant to these concerns are encouraged both as complements to initiatives in the natural and social sciences, and as proponents of research questions than might lead to broad interdisciplinary investigation.

Research might be conducted in either or both countries, but the fellows will retain their position or base at their home institutions. The model will be flexible to allow for minimal disruption of the academic responsibilities at the fellows' home institutions.

To be selected, applicants need to display a compelling vision of their future involvement in the development of research projects, programs, human capacity, specific policies, or societal structures.

The selection process will consider individual qualities but also focus on ensuring a diversity of culture, subject background (natural and social sciences, humanities) and gender among the fellows.

The following criteria will be used as a guide for the nomination and selection of fellows:

- A PhD degree or equivalent qualification;
- A faculty or a continuing research position at a research institution;
- Active in research and teaching at an African institution of higher education or research;
- A sustained record of outstanding scientific or scholarly outputs;
- Interest in translating and communicating the results of their work for impact in society;
- Demonstrated leadership ability in research and beyond;
- Interest in the role of research in addressing complex issues affecting society;
- Interest in collaborations across disciplines and sectors (e.g. industry, civil society, government, etc.);
- Commitment to participate in all the activities of the fellowship; and
- Intent to share what is learned in the program with their broader networks.

All applicants have to provide two support letters by academic referees (details are provided in the application form). One of the two referees has to commit to be involved in future communications and mentorship in case of selection of the applicant into the program. This referee will be informed about the progress of the fellow and should be willing to support the fellow if he or she requires it.

All applications will be reviewed and shortlisted by representatives of Future Africa at the University of Pretoria, in collaboration with expert reviewers at other institutions.

Key dates:

<i>30 April 2018</i>	<i>Applications close</i>
<i>31 May 2018</i>	<i>Outcome letters sent to applicants</i>
<i>September 2018 onwards</i>	<i>Arrival of fellows</i>