

Career Development Framework for African Researchers

Development area	Skills, knowledge behaviours and attributes	Behaviours / abilities
Research skills, knowledge and techniques	Core knowledge of key research concepts, principles and issues, and of recent advances within own research field and related areas	<ul style="list-style-type: none"> • Demonstrate an understanding of key research concepts, principles and issues, and a knowledge of recent advances within own research field and related areas • Understand how research within own field is organised nationally in terms of institutions (e.g. research institutions, ministries, ethics committees, policy making bodies), publications, funding sources • Understand research legislation within own context and internationally
	Finding information: Library and retrieval skills, and critically reviewing relevant literature	Ability to: <ul style="list-style-type: none"> • use a range of methods, tools, techniques and information software to collect and organise information from a range of primary and secondary sources • Critically assess the reliability, reputation and relevance of sources of information and recognise the importance of bibliometrics and citations • Manage and work within a context of limited availability of research literature and unreliable internet access
	Developing research ideas and problems into projects <i>(problem solving and original critical thinking)</i>	Ability to: <ul style="list-style-type: none"> • Recognise, define and validate research problems from a coherent analysis of gaps in existing knowledge and literature base • Write a research proposal describing appropriate research questions, contexts, design and methodologies • Identify research: from an idea to a problem
	Theoretical Knowledge: Knowledge, understanding and practical application of research methods and techniques relevant to own research	Demonstrate: <ul style="list-style-type: none"> • knowledge and an understanding of the appropriate research methods and techniques relevant to their research, such as data analysis and interpretation • An ability to justify choice of methods and techniques and their application within their research

	Specialist subject knowledge and practice	<ul style="list-style-type: none"> • Ability to identify, develop and apply the specialist knowledge and skills specific to area of research, such as specific laboratory techniques
	Public, stakeholders and policy engagement	<ul style="list-style-type: none"> • Understand the importance of engaging the public, policy makers and other stakeholders in the research and dissemination processes • Demonstrate skills in dissemination of research, engagement and lobbying • Ability to deploy a range of communication tools and materials to engage and influence key audiences
Research management and organisation	Understanding and managing the research environment	<ul style="list-style-type: none"> • Demonstrate an understanding of the standards of good research practice, including: research ethics, integrity, confidentiality, quality assurance, copyright, ownership of data, etc
	Planning and managing a research project	<ul style="list-style-type: none"> • Demonstrate an understanding of project management cycles and an ability to draw on a range of project management tools and strategies to plan, implement, and monitor and evaluate a research project effectively within the stated time frame
	Building and managing a research team	<p>Ability to:</p> <ul style="list-style-type: none"> • Interview and select team members • Communicate vision and goals • Motivate individuals and manage their performance • Coach and develop team members • Comply with employment legislation and institutional HR policies
	Managing research administration:	<ul style="list-style-type: none"> • Understand research management systems (procurement, access to research budgets...) and roles of people (grant managers, research administrators, financial managers...)
	Financial management: Managing a research budget	<ul style="list-style-type: none"> • Demonstrate an understanding of institutional, national and donor financial systems for supporting research

		<ul style="list-style-type: none"> • Ability as a stakeholder to procure finances to support research • Ability to manage own grant through creating and keeping accounts and reconciliation • Ability to manage professional and non-professional (personal) finance
	Data management	<ul style="list-style-type: none"> • Demonstrate an understanding of copyright, data ownership, intellectual property rights and use of open access repositories using “creative commons licence” • Ability to handle and manage own research data effectively through creating appropriate systems
	Develop a coherent research strategy for the research group	<ul style="list-style-type: none"> • Demonstrate an understanding of how own research aligns with the research strategy of the institution, nationally and globally • Ability to recognise and develop a research strategy that meets the broader research agenda and benefits a range of stakeholders.
	Managing self	<p>Demonstrate self-awareness:</p> <ul style="list-style-type: none"> • Reflect on and assess own performance • Elicit and respond to feedback from others • Recognise strengths and weaknesses <p>Demonstrate personal integrity:</p> <ul style="list-style-type: none"> • An awareness of the values that underpin own behaviour and practice • Demonstrate an understanding of issues of equality and diversity and their importance in research practice and in team management • Treat others fairly and with respect <p>Ability to:</p> <ul style="list-style-type: none"> • Objectively critique own research and define future work • Confidently defend own research • Manage constructive criticism about own research

Personal and professional effectiveness	Communication	<p>Oral: Ability to:</p> <ul style="list-style-type: none"> • Communicate own research orally and to a range of specialist and lay audiences • Verbally summarise own research work succinctly and for different purposes – including for: international conferences, stakeholders, funders and communities <p>Presentations: Ability to:</p> <ul style="list-style-type: none"> • Produce well-constructed clear presentations using appropriate media such as power-point • Present research work fluently and confidently and be able to respond clearly and persuasively to audience questions and comments <p>Writing: Ability to:</p> <ul style="list-style-type: none"> • Produce well written and well-constructed papers that contain coherent arguments and articulate ideas with clarity • Write in a style that is appropriate for purpose (e.g. publication, reporting: financial, technical, proposals) <p>IT skills:</p> <ul style="list-style-type: none"> • Ability to use appropriate software to organise, manage and communicate research work, e.g. managing data, drawing up and embedding charts, figures, tables, images, etc. within written work
	Working with and developing others:	<p>Demonstrate an understanding and ability to:</p> <ul style="list-style-type: none"> • Work with others in a variety of roles, such as team member, leader, supervisor, mentor, mentee... • Collaborate effectively with different research groups and researchers from other disciplines • Manage conflict and challenging people and situations
	Mentorship and knowledge transfer:	<p>Demonstrate:</p> <ul style="list-style-type: none"> • A willingness and ability to support the learning of others through teaching, mentoring, and supervising • Awareness of the value of mentorship through being mentored and mentoring others

	Time management	<p>Ability to:</p> <ul style="list-style-type: none"> • Establish own time management systems • Manage time effectively and efficiently and at the same time be able to respond flexibly to prioritise needs
	Networking	<ul style="list-style-type: none"> • Demonstrate regular attendance at conferences, meetings and actively develop and keep up networks through informal networking and formally through membership of organisations and institutions
	Understand the career trajectory of a successful researcher	<ul style="list-style-type: none"> • Demonstrate a commitment to continued professional development to establish self and research career
Career Management	Understand the need for taking ownership of own career	<p>Ability to:</p> <ul style="list-style-type: none"> • Use developmental strategies such as Personal Development Planning (PDP) and mentorship to take ownership of, and manage career and career transitions effectively • Build research reputation through developing and managing a personal research portfolio, managing publications, writing grant proposals, winning research income and managing engagement and career impact • Promote oneself, through good presentation of skills, personal attributes, experience, research impact, effective CV applications and interviews