

UNITED REPUBLIC OF TANZANIA



NATIONAL POSTDOCTORAL RESEARCH FRAMEWORK

May 2018

FOREWORD

The National Postdoctoral Research Framework (NPRF) is an overall guideline to all institutions expected to host and support postdoctoral research programs in Tanzania. Higher learning and R&D institutions are therefore obliged to prepare own institutional frameworks that are streamlined to this Framework. Whenever opportunities arise, the institutions have a responsibility to identify and select best qualified candidates to participate in the postdoctoral research programs. Among other important aspects of the Framework is the need of Higher learning and R&D institutions to recognize and increase research excellence through postdoctoral research in Tanzania.

It is advised therefore that employers in Higher learning and R&D institutions and industry give full support to the employees to undertake postdoctoral research when such opportunities arise. It is hoped that this framework will encourage the authorities in various institutions to give value to the importance of having Tanzanian postdoctoral research fellows supported and working within the country for the benefit of institutions and National at large. It is high time that Tanzania undertake her own research and innovation initiatives geared towards addressing her research agenda that provides solutions to the country priority problems.

The Tanzania Commission for Science and Technology (COSTECH) is a government organ mandated to provide advisory services on matters of Science, Technology and Innovation (STI) for sustainable development of the country. The mandate includes driving STI agenda including establishment and support for robust systems demonstrated by investment in R&D partnered with commercial vision and entrepreneur effort and quality human capital at all levels. Given this mandate the Commission coordinated consultative processes that led to the development of this framework. This National Postdoctoral Research Framework is expected to boost Tanzanian Institutions and individuals to get involved in the STI research thus contributing to bring Tanzania to a middle income country by 2025 and beyond.

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ABBREVIATIONS

CAMARTEC	Centre for Agricultural Mechanization and Rural Technology
COSTECH	Tanzania Commission for Science and Technology
GDP	Gross Domestic Product
ID	Identification Card
IHI	Ifakara Health Institute
IP	Intellectual Property
KCMUCo	Kilimanjaro Christian Medical University College
KCRI	Kilimanjaro Clinical Research Institute
MU	Mzumbe University
NIMR	National Institute for Medical Research
NM-AIST	Nelson Mandela African Institution of Science and Technology
OUT	Open University of Tanzania
PhD	Doctor of Philosophy
R&D	Research and Development
Sida	Swedish International Development Cooperation Agency
STI	Science Technology and Innovation
SUA	Sokoine University of Agriculture
SUZA	State University of Zanzibar
TaCRI	Tanzania Coffee Research Institute
TAFIRI	Tanzania Fisheries Research Institute
TAFORI	Tanzania Forestry Research Institute
TALIRI	Tanzania Livestock Research Institute
TAWIRI	Tanzania Wildlife Research Institute
TDV	Tanzania Development Vision

TIRDO	Tanzania Industrial Research and Development Organization
TPRI	Tropical Pesticides Research Institute
TVLA	Tanzania Veterinary Laboratory Agency
UDSM	University of Dar es Salaam
URT	United Republic of Tanzania
USA	United States of America

1.0 INTRODUCTION

1.1 Background information

Postdoctoral research enables one in deepening expertise in a specialized subject, enhancing experience in integrating in a research team and acquiring novel skills and research methods. Postdoctoral fellows thus are essential in advancing the scholarly mission of host institutions; they are expected to produce publications in peer-reviewed academic journals or conferences and build the pyramid of excellence¹ as part of the integrated team. Therefore, the fellows' high quality research experience will be more relevant to career and professional development if the scholar seeks or is offered opportunities to acquire, maintain, or improve such skills. This is because, while improving personal experience in research, the postdoctoral fellows will also contribute to the national research and development capacity. It is therefore anticipated that the research carried out by postdoctoral fellows will contribute to new or improved tangible products, processes and services thus leading to national industrial development and contributing to the Tanzanian Development Vision (TDV) 2025.

High quality research has been a key contributor to economic development in nations in the developed world. Through research, nations in the developed world have enjoyed sustained economic prosperity. The industrial revolution in developed nations for instance, has been linked to extensive scientific research that led to significant discoveries by various scientists. These nations have further developed generations of researchers while also drawing researchers from beyond borders to further strengthen their ability to drive innovation and economic development. So far, records indicate that, the USA is leading in research outputs globally; Germany has the greatest relative share of worldwide patents referencing its research; France has the most international collaborations with 50% of its articles being co-authored internationally; and the research base in China is growing fast. It is broadly accepted that for economic growth, investment in scientific research is key but the best investment strategy requires a detailed understanding of a nation's research strengths and weaknesses.

The 2014 global R&D funding forecast indicated that, although Africa (Excluding South Africa which has shown a remarkable growth in R&D capacities) is expected to acquire strong GDP growth, it will remain limited by under-developed R&D capabilities. This is quite evident in Tanzania where economic growth is being

¹ The pyramid of excellence in research is where there is an integrated team with senior researchers at the top (Professors/ Professorial Chairs/ Principal Investigators) that supervise postdoctoral researchers that supervise PhDs that supervise MScs'. This enables exponential training and mentoring whilst building strong research teams.

observed but with limited R&D capabilities relative to the GDP growth. This has been contributed by the fact that most of the research results so far have had limited impact to national development as much of it has not been translated into tangible products, processes and services. Thus, to attain a steady growth in the R&D that can help Tanzania and Africa at large to catch up with the rest of the world, efforts need to be made to increase number of researchers and improve quality of research for sustainable economic development.

Researchers in Tanzania are so far categorised as those possessing academic qualifications at the level of Masters and/or PhD working in a relevant environment of Higher learning or R&D institutions. Despite the fact that a number of Tanzanians have been supported to undertake postdoctoral research abroad, postdoctoral fellowship as a career pathway for research is new and yet to be recognised by many Higher learning and R&D institutions in the country. So far, many research candidates have limited access to postdoctoral opportunities. Moreover, those who secure such opportunities from elsewhere face challenge such as being denied release from duty by employers. It is therefore important that these issues are addressed in order to create conducive environment for postdoctoral fellowship programs to succeed in the country. It is important to emphasize that, countries that have recognized the importance of postdoctoral research have benefited from research excellence. Furthermore, despite the potential to leverage exponential training and fast track building of research excellence, Tanzanian postdoctoral fellows are yet to be considered as part of a researcher's career path. It is therefore from this understanding that this framework is prepared to encourage both higher learning and research institutions to recognize this category of researchers. It is believed that, through recognition of postdoctoral positions and prioritizing researches that are geared towards solving critical country's development problems, sustainable development will be realised.

1.2 Rationale

Following the commitment of the government of the United Republic of Tanzania in 2008 to allocate at least 1% of her GDP for supporting research in the country, three main areas namely improving research infrastructure, human resource capacity building and; support to research and innovation have been the focus. Previous support on human resource capacity building was mainly for Masters and PhD levels. Tanzania, like other African countries is faced by shortage of skilled research personnel. Indeed, Africa produces about 2% of the worlds' research output and that has only 79 scientists and engineers per million inhabitants; compared with 168 for Brazil, 2,457 for Europe and 4,103 for the United States, and limited infrastructure have contributed to low research outputs.

It is high time that the country also focuses on postdoctoral research to build research excellence in Tanzania. Postdoctoral research, which entails building of competence for competitive research will among other things incentivize, attract and retain skilled research staff, a factor that will attribute to improved research outputs and outcomes. Postdoctoral fellowship will be a research program to train and develop world class Tanzania researchers, foster their careers and collaborations as well as promote research uptake and policy Supporting postdoctoral training will promote development of world class Tanzanian research leaders to solve the country's most pressing development issues. It is anticipated that, postdoctoral research undertaking would be among strategies to: build research competence, facilitate and improve quality of research outputs through deepening expertise in specialized subject including integrating teams for acquiring novel skills and methods in a productive research environment. The programs are expected to bring a set of values in human capital that serves to enrich the knowledge base for sustainable development. This framework provides minimum National guidance for establishing and coordinating postdoctoral programs in Tanzania. It sets minimum criteria for eligibility, selection, review of application and mentoring of postdoctoral fellows with the intention to create a culture of postdoctoral research and recognition of the same as part of the research career path in the country.

1.3 Objectives of the Postdoctoral Research Framework

1.3.1 General Objective

The general objective of this framework is to promote and set minimum requirement for conducting postdoctoral research as part of building research excellence in Tanzania.

1.3.2 Specific Objectives

Specifically, the framework intends to:

- i. Promote and stimulate demand for post-doctoral opportunities in the country;
- ii. Increase the number and quality of postdoctoral research fellows;
- iii. Strengthen scientific careers of active researchers in order to support the chain of innovation and tackle challenges that impede National development;
- iv. Support researchers to carry out advanced research projects of scientific excellence;
- v. Enable Tanzanian postdoctoral fellows to obtain international research exposure;

- vi. Promote trans-national mobility of postdoctoral fellows and international researchers in order to foster collaborative research;
- vii. Encourage international postdoctoral research fellows to undertake research in Tanzania;
- viii. Stimulate local institutions to establish and/or strengthen postdoctoral programs;
- ix. Attract national and international research funding through postdoctoral programs.

2.0 GUIDING CRITERIA FOR POSTDOCTORAL PROGRAMS

The National Postdoctoral Research Framework intends to enhance postdoctoral programs, provide guidance for selecting and coordinating programs, providing responsibilities of funding agencies, host institutions and mentors. The presented criteria are intended to represent the minimum requirements with the understanding that host institutions and funding agencies can use their own prerogative to devise additional requirements for individual use. The framework focuses on eligibility criteria; candidate selection, mentorship requirements, and process for review of applications which are considered basic for the purpose of establishing impact of the program.

2.1 Eligibility and required competencies

This framework sets minimum eligibility and competency criteria to guide various institutions in the process of selecting researchers applying for postdoctoral research fellowship. The criteria are listed in the subsections hereunder:

2.1.1 Eligibility criteria

- i. Applicants must be Tanzanian citizens holding a PhD degree from a recognised Higher Learning Institutions at the time of submitting the application;
- ii. The postdoctoral research shall be hosted at a Tanzanian registered higher learning institution, recognized R&D institution or industry in Tanzania.
- iii. On rare occasions where the required area specific qualification and/or technology are not available in Tanzania, a candidate may be recruited from outside the country on condition to build capacity of Tanzanians in the respective expertise.
- iv. The age of a postdoctoral applicant should not exceed 40 years for men and 45 years for women at the time of award of the fellowship.

- v. The application must be submitted within 5 years after completion of a PhD program.
- vi. Applicants must have a registered patent or at least one published research paper² in a peer-reviewed journal and should be a first author. The paper must be published in the journal listed in International Science Citation Index (ISCI) or Higher learning or R&D institutional peer reviewed journals.
- vii. Applicants with degree(s) that need professional licensing/registration before practice must hold a license in Tanzania at the time of application.
- viii. Applicants must submit a jointly written research proposal prepared in consultation and agreement with potential mentors.
- ix. All submissions must have an attached endorsement letters from mentors and the host institution expressing commitment to support the applying postdoctoral fellows.
- x. Candidates who previously secured postdoctoral research fellowships from government sources shall not be eligible.

2.1.2 Required competencies

For a candidate to be awarded a postdoctoral research fellowship, the following should be considered as necessary competences:

- i. Possession of area/discipline specific knowledge;
- ii. Adequate research skills;
- iii. High level of communication skills;
- iv. Demonstration of team working skills;
- v. Demonstration of adequate analytical skills;

² The applicant must either be the single author, first author or joint first author. In a joint first author paper the applicant may be listed in second place, however the equal contribution of the first two authors must be clearly stated. In some cases the standard publication practice makes first authorship impossible (e.g. alphabetical listing of authors); these circumstances must be explained in the "Additional Comments" section of the application. Electronic/ Hard copies of lead author publications must be submitted while preparing the application. They cannot be submitted separately after the applicant has submitted.

- vi. Promising track records in conducting research:

2.2 Candidate selection criteria

The selection of Postdoctoral research fellows must be an open and competitive process. The selection of candidate for a postdoctoral fellowship will be based on the proposed research project and qualifications of the applicant, qualifications of the mentor and quality of the host institution, which will be evaluated for:

- i) Scientific merit and potential of the research to bring desired change/new knowledge
- ii) Academic excellence of the applying postdoctoral research fellow and the respective potential mentors,
- iii) Personal commitment of the postdoctoral research fellow to attain the aims of the project,
- iv) Institutional capacity of the host institution,
- v) Where both male and female candidates demonstrate equal qualifications, the female shall be given a priority.

2.3 Mentoring and mentorship

2.3.1 Mentoring

Postdoctoral research fellows need mentorship that provide for the skills, knowledge and experience to prepare them to excel in career path. Postdoctoral research fellows as early career researchers are expected to share responsibility with respective mentors as stipulated in the mentoring guidelines (See Appendix 1). Host institutions and funding agencies are at liberty to develop and further define obligations of mentoring relevant to their contexts. At minimum it is recommended that there should be a contractual agreement between the mentor and the postdoctoral research fellow that is reviewed and adjusted annually following evaluation. Generally, contents of the guidelines shall include:

- i. agreement on mentoring and coaching between the host institution, mentors and the postdoctoral research fellow;
- ii. agreement on the modalities of conduct between the host institution, mentors and the postdoctoral research fellow;
- iii. statement on the postdoctoral research fellows' training program at the host institution;
- iv. annual evaluation form that focus on productivity, feasible career goals and career development (as presented in Appendix II).

The host institutions' training program statement (in iii above) shall ensure that the mentee achieves the following:

- i. learning techniques relevant to the research project;
- ii. practice in writing research proposals (for winning medium and/or big research projects);
- iii. development of supervisory skills;
- iv. development of a network of peers and contacts;
- v. attendance and presentation of research progress and/or findings at conferences, workshops, meetings and/or seminars.

2.3.2 Mentorship

The postdoctoral research fellow should have at least one Lead and a Co-Mentor. The primary purpose of the lead and co-mentor is to provide research, scientific and skill based guidance necessary to foster the applicant's career advancement for successful implementation of the proposed research project. The lead and/or co-mentors are responsible for direct mentoring the postdoctoral fellow. Both mentors should submit commitment letters for advancing career development of the respective postdoctoral researcher when submitting the application.

The lead mentor should therefore:

- i. hold a PhD
- ii. hold a full-time position at a registered higher learning or recognised R&D institution
- iii. have related research experience of not less than five years and should have recognised research outputs in the field
- iv. demonstrate high standards of academic and research excellence in the relevant research area

On the other hand, the co-mentor should:

- i. hold a full-time position or attachment at a recognised institution or firm;
- ii. hold a PhD and have related research experience of not less than three years for those from Higher learning and R&D institutions;
- iii. have related research experience that is complementing the lead mentor;
- v. demonstrate high standards of academic/research/ industry excellence in the relevant research area;
- iv. have a practical experience of not less than 8 years for those from non-Higher learning or R&D institutions.

2.4 Review of an application

All postdoctoral research fellowship applications shall be subjected to a review process that will consider the following aspects:

- i. openness and transparency;
- ii. interview for the short listed applicants;
- iii. timely feedback to applicants;
- iv. review team constituting experts in relevant field;
- v. appeal through advertising institution for unsatisfied applicants.

3.0 ROLES AND RESPONSIBILITIES OF PARTIES

Various parties are involved in the whole process of the postdoctoral research. The parties include: postdoctoral research fellows' employers, mentors, postdoctoral researchers, host institutions and funding agencies. It is the responsibility of all parties to sign a contract prior to commencement of postdoctoral research program. The subsections hereunder provide for key responsibilities of these categories.

3.1 Postdoctoral Researcher's Employer

The employer of a postdoctoral researcher shall have the following responsibilities:

- i. provide leave of absence to the postdoctoral researcher for a minimum of two years or as stipulated in the terms and conditions of the fellowship contract;
- ii. ensure continuation of salaries of postdoctoral candidates on research leave;
- iii. during Postdoctoral research leave, the employed fellow undertaking research shall undergo yearly performance appraisal which will account for career development and promotion.

3.2 Host Institutions

It is an obligation of research institutions aiming at or already hosting postdoctoral programs to prepare internal postdoctoral research guidelines, which among others will stipulate benefits, expectations, internal arrangements and risks including financial and logistical arrangements related to running the program. Once the guideline is completed and approved by a relevant regulatory body, it can be shared in public domain such as institution's official website. Institutions should ensure sufficient capacity to host the program both technically and administratively.

The host institution will provide official recognition (by way of ID or otherwise) to the postdoctoral research fellow to access general institutional facilities such as libraries, laboratories, computing and network services and recreational facilities on the same basis as members of staff. For postdoctoral research fellows that are members of staff of the host institution, they should undergo regular appraisal or performance reviews, which will include career development.

If postdoctoral fellows are under a projects managed by Principal Investigators, these individuals are to ensure that the contribution of postdoctoral researchers to their project is appropriately recognised and credited in the project outputs, and that postdoctoral researchers are availed opportunities to give talks and papers about the research they are involved in.

3.3 Mentors

The postdoctoral research fellows' mentors shall:

- i. share and discuss available opportunities that would benefit the fellow;
- ii. discuss the postdoctoral research plan, progress, and modalities of dissemination;
- iii. advise the postdoctoral researcher on academic and technical matters;
- iv. comment on the articles and products developed by the postdoctoral researcher;
- v. review postdoctoral' research plan and help in its revision as needed.

3.4 Postdoctoral research fellows

The postdoctoral fellows shall have the following responsibilities:

- i. Propose potential mentors and co-mentors;

- ii. Prepare detailed description of the research project;
- iii. Implement project as outlined in the plan
- iv. Submission of progress and final reports according to terms and conditions of the fellowship contract;
- v. Notifying mentors of any challenges associated with research work;
- vi. Identifying world class meetings, conferences and workshops that are worth attending for the benefit of the project;
- vii. Applying for grants to supplement mobility or attachment to other institutions for specific purposes;
- viii. Teaching, supervision and guiding junior researchers;
- ix. Undertake personal evaluation using some suggested checklist of question in appendix iii.
- x. Complete the postdoctoral fellowship program as stipulated in the contract failure to which remedies for breach of contract (section 7.0) shall apply.

3.5 Funding agencies

Funding agencies shall consider attractive remuneration that is in terms of a salary for un-employed and postdoctoral allowance for employed candidates. Other benefits such as mobility (travel and living expenses outside the country), leave and health insurance should also be clearly stipulated. Postdoctoral fellowship grant contract should provide guidance on key financial and practical considerations required or allowed in the course of the program. This may include arrangements such as contracting/outsourcing, co-funding and institutional collaboration in mentorship, accountability to donors and mentors' remuneration packages.

4.0 GRANT CONDITIONS

The grant conditions of any postdoctoral research fellowship are in accordance with the awarding organization. It is therefore recommended that the following conditions shall be considered when awarding postdoctoral grants:

- i. Postdoctoral proposal shall have a clear dissemination strategy of products/research outputs.
- ii. Postdoctoral researchers shall become fulltime researchers of the host institution.
- iii. Postdoctoral fellows may be required to undertake other duties for up to 6 hours per week such as teaching, supervision and guiding junior researchers.
- iv. The minimum duration of the grant/fellowship shall be two years and maximum of four years.

- v. It is advised that the postdoctoral fellows conduct research programs outside employing institutions, but must be within Tanzania.
- vi. Unemployed postdoctoral fellows shall receive a salary equivalent to the minimum entry salary of a PhD holder at a Tanzanian Higher learning institution, and that gratuity shall be provided at the end of the fellowship.
- vii. Employed postdoctoral fellow shall receive a Postdoctoral allowance of at least 50% of the salary of the un-employed postdoctoral fellow.
- viii. Where the postdoctoral fellow is required to travel (both within and outside the country), cheapest available means of transport shall be used.
- ix. Postdoctoral fellows shall submit progress and final reports to funding agencies, employing and/or host institutions as stipulated in the grant contracts.
- x. Subsequent grant disbursement will be based on progress report recommended by the host institution and approved by the funding agency.

4.1 Use of grant

The purpose of the grant is to support research project and enhance research excellence. The host institutions should be able to provide evidence to the grantor that the fellowship grant has been used in accordance to the terms and conditions of the contract. Therefore, the research grant shall cover the following:

- i. Research cost to be incurred by postdoctoral fellow;
- ii. An annual salary or postdoctoral allowance;
- iii. Mobility allowance (travel cost, accommodation and living expenses);
- iv. Lead and co-mentors' supervisory allowances.

5.0 INTELLECTUAL PROPERTY (IP)

As a matter of principle, it is important that the IP and any data resulting from the postdoctoral research be shared among the responsible institutions, mentors, co-mentors, the Postdoctoral research fellow and the funding agency and any other part that may have contributed to the final output. The modalities of sharing the benefits shall be agreed upon prior to the commencement of the fellowship.

6.0 RECOGNITION OF POSTDOCTORAL ATTAINMENT

Upon successful completion of postdoctoral research program, the postdoc fellow shall be awarded a written recognition.

7.0 TERMINATION OF FELLOWSHIP AWARD AND DISPUTE RESOLUTION

A postdoctoral research fellowship may be terminated before the end of the grant period provided the decision has followed established institutional procedures. The following reasons may warrant early termination:

- i. Documented unsatisfactory performance both by the postdoctoral fellow as well as the mentors and/or host institution.
- ii. Serious misconduct on the parties such as fraud and/or misuse of funds.
- iii. Failure to adhere to fellowship contract obligations.
- iv. Incapacitation of the postdoctoral fellow.

However, in the event of termination of postdoctoral fellowship, the fellow may decide to appeal and the dispute shall initially be settled amicably between the Parties (ie the fellow and the management of the institute providing a grant). If the Parties are unable to resolve; the dispute shall be submitted to arbitration in which event each party shall appoint one arbitrator and the two arbitrators so appointed shall mutually agree on the appointment of a third arbitrator.

The arbitration shall take place in any place within Tanzania as agreed by the Parties. The communication language in arbitration shall be either English or Kiswahili as agreed mutually by the Parties. Arbitrator's decision shall be final and binding on the Parties and shall forthwith be carried into effect.

8.0 REMEDIES FOR BREACH OF CONTRACT

In the event of non-compliance of any signed contract, institutional measures will apply by any of the parties responsible; and the following remedies shall apply:

- i. Withholding disbursements
- ii. Return the disbursed funds by any of the parties breaching the contract
- iii. Payments of compensatory damages as stipulated in the contract among parties

9.0 DECLARATION REGARDING ANY CONFLICT OF INTEREST

Conflicts of interest (actual, potential or perceived) shall be disclosed at application, review and execution stages. Those with a conflict of interest are expected to refrain from being involved in making decisions where such a conflict exists. This will enhance the integrity of decisions related to the National postdoctoral fellowship programs. Thus, individuals involved must fill in and sign a declaration form that will be prepared by the funding agencies (Appendix IV).

GLOSSARY

Co-mentor	Assistant to the main mentor. A person with expertise that is relevant to the Postdoctoral Fellow's research project.
Conflict of Interest	Situations in which personal interests may compromise, or have the appearance of, or potential for, compromising professional judgement and integrity.
Employing Institution	Employer of postdoctoral fellow
Postgraduate grant	Funds to cover all postdoctoral research activities.
Host institution	Institution where postdoctoral fellow undertake his/her research
Intellectual Property (IP)	Is a term referring to creations of the intellect for which a monopoly is assigned to designated owners by law. Some common types of intellectual property rights (IPR) are trademarks, copyright, patents, industrial design rights, and in some jurisdictions trade secrets: all these cover music, literature, and other artistic works; discoveries and inventions; and words, phrases, symbols, and designs.
Mentee	A person in receipt of mentorship. In this case the Postdoctoral fellow
Mentor	A person with expertise that is relevant to Postdoctoral research project assigned to provide professional guidance (mentorship) to a mentee
Mentorship	A relationship in which a more experienced or more knowledgeable person helps to guide a less experienced or less knowledgeable person. The mentor may be older or younger, but have a certain area of expertise. It is a learning and development partnership between someone with vast experience and someone who wants to learn
Post-doctoral researcher or postdoctoral fellow	A person professionally conducting research after the completion of their doctoral studies (typically a PhD) as part of a temporary academic appointment, sometimes

	<p>in preparation for an academic faculty position. Postdoctoral research may be funded through an appointment with a salary or an appointment with a stipend or sponsorship award. Appointments for such a research position may be called postdoctoral research fellow, postdoctoral research associate or postdoctoral research assistant. Depending on the type of appointment, postdoctoral researchers may work independently or under the supervision of a principal investigator. In many English-speaking countries, postdoctoral researchers are colloquially referred to as “postdocs”</p>
Postdoctoral allowance	Fund paid to employed postdoctoral fellow to cover accommodation, meals and other living costs
Salary	Fund paid to unemployed postdoctoral fellow to cover accommodation, meals and other living costs

APPENDICES

Appendix I: Outline of mentoring guide on 2.3 (For Postdoctoral mentors)

Mentoring plan should incorporate the most effective mentoring mechanisms devised for the postdoctoral researchers, and could integrate approaches that other faculty/department members have found to be successful. A mentoring plan could incorporate and expand on some or all of the topics listed below:

A: Communication

- i. The initial orientation meeting between the institution/mentor and the postdoctoral
- ii. Frequency of formal meetings between the mentor and postdoctoral fellow. Key topics to be discussed may among others include what has been the progress over a defined period of time, has the milestone been achieved, if not what might have contributed? What challenges have been encountered over the past period, what is the plan for the next period? What are the strategies in place to deal with the challenges encountered previously?
- iii. The guide should specify how the mentor will assist the research candidate on issues such as how to ask a clear, valuable scientific question, how to approach it experimentally and interpret data; relevant methodology; presentation skills, grant proposal writing, reasonable timelines; record keeping; research integrity; authorship order; and publishing practice.
- iv. The annual performance review for postdoctoral researchers

B: Supervisory and Mentoring Skills

- Opportunities for postdoctoral researchers to develop supervisory skills while doing the proposed research. These could include supervising and mentoring undergraduate students or junior staff, assisting in the guidance of graduate students, and supervising technical staff on the specific postdoctoral research project or in more general tasks associated with the research group.

C: Scientific Writing

- i. Expectations regarding writing research papers or review articles, and responsibility of the postdoctoral researchers.

- ii. Guidance and feedback that are given during the paper writing process, including effective writing styles, how to present data, and how to choose a journal.

D: Presentation skills

- Expectations to attend local, national and international meetings and present their work. Indicate which meetings will be most relevant for the postdoctoral researcher.

E: Critical assessment skills

- i. What opportunities are there for commenting on other research projects in the group; and for participating in journal article and grant reviews?
- ii. What guidance is given on how to review research work effectively, for both oral and written formats?

F: Networking

- What steps will the institution/mentor, take to help the postdoctoral researcher set up networking connections that will be useful during the course of the project and beyond? These would include meeting leaders and peers in the field, attending workshops and seminars.

G: Career guidance

- i. Mention any career guidance the institution/faculty member provides. This would include discussion during the annual review of realistic career options.
- ii. Is the postdoctoral researcher encouraged/allowed/able to access available host institution's resources that would inform on career possibilities, as well as practical guidance on how to move to the next career step? These include workshops, seminars, expert for both local and international, grant and proposal writing and opportunities, how to perform in an interview, and research group management.

Appendix II: Annual performance review for Postdoctoral Researchers (Form)

PART I – TO BE FILLED BY THE POSTDOCTORAL RESEARCHER

Name of Postdoctoral Researcher:	Name of Mentor:
Title of the project:	Review Period:
Date of hire:	Review meeting date:

1. Briefly describe your research progress during the year.
2. Describe changes of your work plan or any amendment to the project.
3. Describe challenges encountered during implementation of your research project.
4. List your publications, presentations and seminars during the year.
5. List any honors and awards you have received during the year.
6. Describe other activities that you were engaged during the year at the host institution.
7. Describe your future research plan and milestone for the coming year.
8. Describe other capacity building areas you need to be involved by the mentor in the coming year.
9. What professional or career development issues would you like to discuss?

PART II – TO BE FILLED BY THE MENTOR

Postdoctoral Researcher:	Principal Investigator:
Title:	Review Period:
Date of hire:	Review meeting date:

1. After reviewing this postdoctoral fellow’s progress, briefly comment on his/her progress indicating areas of improvement.
2. What challenges do you face in mentoring the post doctoral fellow and how they can be addressed. What opportunities for technical learning, acquiring teaching or mentoring experience, or developing other professional skills do you think would be beneficial to this postdoctoral researcher?
3. Describe any other professional or career development issues you would like to discuss with this postdoctoral fellow.

Acknowledgment that meeting took place:

Postdoctoral Signature
Date

Date Advisor Signature

Appendix III: Postdoctoral Training Checklist (for postdoctoral researchers)

How are you progressing in your postdoctoral training program? Below is a list of topics that you may consider exploring. You would not need to get training in all of these, but this list will help you keep track of the skills you do build during your training period, and alert you to some you may consider adding.

Year of training: _____ **Date:** _____

1. Research

- a. New techniques
- b. Experimental design
- c. Choosing research questions

Comments: _____

2. Supervisory skills

- a. Undergraduate student
- b. Technician

Comments: _____

3. Writing

- a. Research paper
- b. Review article
- c. Policy brief
- d. Public scientific communication
- e. Grant Proposal

Comments: _____

4. Presentation skills

- a. Group meeting
- b. Journal club
- c. Local meetings
- d. National/international meetings
- e. Teaching opportunity

Comments: _____

5. Critical assessment skills

- a. Ability to comment on other research projects in your group?
- b. Research article reviews
- c. Grant reviews

Comments: _____

6. Networking

- a. Finding a second/third mentor
- b. Do you know peers in your field?
- c. Do you know leaders in your field?

Comments: _____

7. Career possibilities (not a skill, but something to consider as you move along)

- a. Academic tracks
- b. Industry
- c. Research institution (government/private)
- d. Other feasible pathways

Comments: _____

Appendix IV: Conflict of Interest Declaration form

Please print, sign and return to the Postdoctoral Research fellowships Evaluation body:

Name (Surname :
First) :
Address :
Name of Institution :
Email 1 :
Email 2 :
Telephone :
Mobile Phone :
Fax :

Title of the Postdoctoral Research Proposal	
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Check only one:

I have examined the application documents of the postdoctoral research fellow and hereby certify that, based on the information provided to me; I do not have any conflict of interest in this application.

Or

I have examined the application documents of the postdoctoral research fellows and hereby certify that, based on the information provided; I would like to declare that I have a vested interest in the application.

Type of Interest : _____

Declaration:

I declare that, to the best of my knowledge I have declared all interest that I may have with the application and I fully understand the confidential nature of the review process and agree to (1) destroy all materials related to the review after the procedure is finalized; (2) not to disclose and discuss the materials associated with the review, my evaluation, or the review meeting with any other individual except as authorized by Funding agency; (3) not to disclose procurement information prior to the final approval of the postdoctoral grant; (4) to refer all inquiries concerning the review to the Fellowship application evaluation body.

Date: Signature:

.....

Address and email of the funding agency or any responsible party.