

# Research Integrity Policy

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# **Section I – Policy**

# **1.** About this policy

- 1.1. The Board of Trustees of the Royal Botanic Gardens, Kew ("RBG Kew") is a non-departmental public body with exempt charitable status, governed by the National Heritage Act 1983 which sets out the Board's general functions and remit.
- 1.2. The Royal Botanic Gardens, Kew ("RBG Kew") is both a globally renowned visitor attraction and scientific organisation specialising in botanical and mycological research, with science facilities operating across its three sites: the Royal Botanic Gardens, Kew, in West London, the Millennium Seed Bank ("MSB") at Wakehurst in West Sussex, and the Kew Madagascar Conservation Centre ("KMCC") in Madagascar.
- 1.3. Over 495 science staff work for RBG Kew across these three sites.
- 1.4. This research integrity policy has been developed to ensure that our scientists are aware of and are operating within the remit of ethical practices as they conduct their scientific research in the UK and overseas, which includes behavioural conduct. Although RBG Kew is primarily concerned with the research and application of plant and fungal matter, this policy also covers occasions of conducting medical/other studies involving human subjects.
- 1.5. This policy has been designed to align with RBG Kew's other policies as linked to in Section V. This policy should be read alongside RBG Kew's Research Ethics Policy.

# 2. Policy statement

- 2.1. At RBG Kew we must ensure our science is being carried out with scientific rigor and integrity by developing and conducting research in a way that ensures it is trustworthy, ethical and upholds the reputation of individual researchers and RBG Kew as an organisation. This Policy also encompasses a set of professional standards that researchers should adopt and that research at RBG Kew should promote.
- 2.2. RBG Kew and researchers should adhere to the commitments set out within The Concordat to Support Research Integrity.
- 2.2. Having integrity in research is described by UK Research and Innovation (UKRI) as:
  - "Research carried out with a high level of integrity upholds values of honesty, rigour, transparency and open communication, as well as care and respect for those involved in research and accountability for a positive research environment. These values, and the behaviours they instil, are central to a healthy research culture, whether in public or private research settings.
  - Research conducted with a high level of integrity is more trustworthy and trusted by other researchers, by users of research and by society in general."
- 2.3. RBG Kew is dedicated to upholding research integrity as we promote good research practice

throughout the Science Directorate.

- 2.4. A separate policy outlining research integrity is required alongside RBG Kew's policies regarding RBG Kew-wide conduct and expectations. This is due to its specificity to the science community and the issues and considerations that can arise from carrying out research. Ethics and integrity are not the same as governing principles, although they interweave. Governance does involve 'checks and balances' and oversees and maintains the standards in which all staff operate, to ensure the smooth running of the entire business and that everyone working for RBG Kew has a clear understanding of their professional requirements and the organisational structure. Upholding integrity within the governing framework is vital for researchers and RBG Kew as an organisation.
- 2.5. RBG Kew's policy and procedures governing research integrity have been developed to emphasise the importance of integrity and rigour in all research carried out at RBG Kew and in partnership with RBG Kew. All staff, volunteers students, honorary researchers and research visitors, independent contractors or consultants and staff at director level and those in operational and administrative roles within RBG Kew (referred to throughout as Researchers) engaged in research within RBG Kew, and externally on behalf of RBG Kew, must ensure that research is conducted in conformity with the laws of the country in which research is taking place, and act responsibly in accordance with best current practice, irrespective of the source of funding.
- 2.6. While research funders such as UKRI cannot be prescriptive about individual approaches taken by researchers in solving particular research problems, funders can reasonably expect RBG Kew to ensure that an adequate policy framework exists that promotes good research practice, that emphasises integrity and rigour in research, and that creates a culture in which the key commitments for Research Integrity can be understood and observed.
- 2.7. This policy sets out the expectations placed upon individuals conducting research at RBG Kew and while operating overseas, as well as the responsibilities of RBG Kew to support them. This is intended to be used and read in conjunction with RBG Kew's other policies and procedures as set out in Section V (Related Policies, procedures and guidance).
- 2.9. RBG Kew's research must be designed to align with the Global Diversity Framework and its targets, including but not limited to <u>Target 13. "Fair and equitable sharing of benefits from</u> <u>genetic resources, digital sequence information and associated traditional knowledge."</u>

# **3. Scope and definitions**

- 3.1. This policy applies to all research staff, students, honorary researchers, and volunteers, independent contractors or consultants and staff at director level and those in operational and administrative roles within RBG Kew, including staff at director level and those in operational and administrative roles.
- 3.2. **Integrity** as referred to in this policy means to uphold the highest standards in research, including legal, ethical and professional standards; and having the right environment and processes in place to support this, as defined by the <u>Government Office for Science</u>.
- 3.3. Research as referred to in this policy is as per the definition used by the 2021 Research

#### Excellence Framework.

"For the purposes of the Research Excellence Framework, research is defined as a process of investigation leading to new insights, effectively shared. It includes work of direct relevance to the needs of commerce, industry, culture, society, and to the public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research. It includes research that is published, disseminated or made publicly available in the form of assessable research outputs, and confidential reports. It includes any datasets or databases that are collected or developed during the research process. Scholarship for the REF is defined as the creation, development and maintenance of the intellectual infrastructure of subjects and disciplines, in forms such as dictionaries, scholarly editions, catalogues and contributions to major research databases."

- 3.4. **Researchers** refers to any person who conducts research, including but not limited to: as an employee; an independent contractor or consultant; a research student; a visiting or emeritus member of staff; or a member of staff on a joint clinical or honorary contract.
- 3.5. **Managers of Researchers** refers to any person who is the direct line manager of a person carrying out research.
- 3.6. **Research Organisations** refers to any bodies which: conduct, host, sponsor or fund research; employ, support or host researchers; teach research students; or allow research to be carried out under their auspices. This includes RBG Kew and project lead/partner organisations.
- 3.7. **Overseas** refers broadly to the country in which researchers are conducting fieldwork and

research or attending conferences or events, both with or without in-country partners.

- 3.8. **Partners** refers to organisations and individuals with whom RBG Kew is formally engaging or has been formally engaged by to deliver a research project. Partners are named in funding applications and will be in receipt of funding except in the case of contributions being 'in kind',
- 3.9. **Trusted Research** as defined by UKRI means "protecting the UK's intellectual property, sensitive research, people and infrastructure from potential theft, misuse and exploitation, including as a result of hostile activity by state and other actors."
- 3.10. Development Assistant Committee (DAC)-listed countries refers to countries listed by the <u>OECD</u> <u>Devevelopment Assistance Committee</u> being recipients of Official Development Assistance ('ODA') funding due to the country's current economic status, which are defined as 'least developed countries'; 'low income countries'; 'lower middle income countries and territories'; and 'upper middle income countries and territories'.

**3.11. ODA funding** refers to research funding provided by the government via the OECD Development Assistance Committee. RBG Kew is a frequent recipient of of ODA funding when leading projects that are dealing with livelihoods, food security and community engagement, which operate and engage partners within DAC-listed countries. Researchers in receipt of ODA funding must comply at all times with specific terms of this fund.

## **Section II - The Concordat's Five Commitments**

- 1.1. Introduction: All scientists at RBG Kew, managers of researchers and RBG Kew as an organisation should adhere to the following five commitments as outlined by the the Concordat to support the Career Development of Researchers:
- 1.2. The Concordat's Five Commitments for Research Integrity, as outlined by the UK Research Integrity Office, which are further detailed in this policy, should be present at all stages of research and include:
  - Maintaining the highest standards: We are committed to upholding the highest standards of rigour and integrity in all aspects of research
  - Ethical, legal and other frameworks: We are committed to ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards.
  - Research culture: We are committed to supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers.
  - Dealing with research misconduct: We are committed to using transparent, timely, robust and fair processes to deal with allegations of research misconduct when they arise.
  - Strengthening research integrity: We are committed to working together to strengthen the integrity of research and to reviewing progress regularly and openly.

## **Section III - Standards for RBG Kew and Researchers**

## **1. Core standards**

- 1.1. RBG Kew as an organisation and its researchers must adhere to the following set of standards as per the UK Office of Research Integrity, which in turn expands upon the governing principles as outlined above and complies with <u>The Concordat to Support Research Integrity</u>. A full set of these standards and their specific guidance are found in Annex 1, page 16, and should be referred to in addition to the governing principles and the RBG Kew Code of Practice for Research Integrity.
- 1.2. These core standards apply to:
  - Leadership and supervision.
  - Training and mentoring, including supervision of PhD and MSc theses.
  - Collaborative working with RBG Kew staff and with project partners in the UK and overseas, including within Development Assistance Committee (DAC)-listed countries
  - Handling of conflicts of interest.
  - Handling of research involving human participants, human material or personal data.
  - Handling of research within wildlife habitats .
  - Health and safety.

- Intellectual property.
- Finance.
- Collection and retention of data.
- Monitoring and audit.
- Peer review.
- Publication and authorship.
- Misconduct in research.
- Access and benefit sharing.

### **2. Guidance on good practice in research**

- 2.1. RBG Kew and researchers must follow the below general guidance at all times in addition to the further standards as continued in Annex 1.
- 2.2. RBG Kew and researchers must comply with all legal and ethical requirements and other guidelines that apply to their research, such as The Concordat to Support Research Integrity and materials from regulators, learned societies, research funders, publishers and others. This includes submitting research proposals for ethics review where appropriate and abiding by the outcome of that review. They should also ensure that research projects are approved by all applicable bodies, ethical, regulatory or otherwise. This includes understanding the legal and ethical approvals of the country in which projects are conducted. Researchers must ensure their project partners are compliant to such regulations and must carry out due diligence on any new partner as part of guaranteeing Trusted Research.
- 2.3. When conducting, or collaborating in, research in other countries, RBG Kew and researchers based in the UK should comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted. Similarly, organisations and researchers based overseas who participate in UK-hosted research projects should comply with the legal and ethical requirements existing in the UK as well as those of their own country. Researchers must operate in mind of RBG Kew's overseas Safeguarding principles when working in any country and particularly in countries where UK standards of safeguarding are not applied, for instance when working in DAC-listed countries and with partners in receipt of ODA funding, in order to protect potentially vulnerable partners and/or members of the public with whom contact or engagement will be made as part of the research plan.
- 2.4. RBG Kew and partner organisations should:
  - Ensure that good practice in research forms an integral part of their research strategy or policy.
  - Establish clear policies and procedures that cover the commitments of good practice in research and offer detailed guidance on the Standards set out in this Code.
  - Ensure that these policies and procedures complement and are in accordance with existing organisational policies, such as those for health and safety, raising concerns at work, management of finances or of intellectual property, and equality, diversity and inclusion.
  - Make sure that their researchers are aware of these policies and procedures and that all research carried out under the auspices of the organisation complies with them, including the <u>Athena Swan Charter</u> for gender equality in academia, for which RBG Kew has achieved the Athena Swan Bronze Award.
  - Provide training, resources and support to their researchers to ensure that they are aware of these policies and procedures and are able to comply with them.

- Encourage their researchers to consider good practice in research as a routine part of their work.
- Monitor these measures for suitability and effectiveness and review them where necessary.
- Carry out appropriate due diligence on any new partner or sub-contractor to ensure RBG Kew is not engaging with and passing funds to a fraudulent/criminal organisation or individual, or with those where there may be a conflict of interest.
- Fully comply with the <u>national legislation</u> that implements the Nagoya Protocol and Access and Benefit Sharing.
- Consider at the earliest possible stage the type of access, export and/or import permits required to conduct research in-country and for collection and transport of genetic materials.
- 2.5. Researchers should:
  - Recognise their responsibility to conduct research of high ethical standards.
  - Be aware of RBG Kew's policies and procedures on good practice in research.
  - Make sure that their research complies with these policies and procedures, and seek guidance from RBG Kew when necessary.
  - Work with their managers to ensure that they have the necessary training, resources and support to carry out their research.
  - Suggest to their managers how guidance on good practice in research might be developed or revised.
  - Understand where research data is being stored, developed or used locally, internationally or cloud based and what legislation applies to that environment.
  - Consider at the earliest possible stage the type of access, export and/or import permits required to conduct research in-country and for collection and transport of genetic materials.
  - Fully comply with the <u>national legislation</u> that implements the <u>Nagoya Protocol</u> and Access and Benefit Sharing and familiarise themselves with this text, including Article 20 on code of conduct.

# Section IV – RBG Kew Code of Practice for Research Integrity

### **1.** Responsibilities of Researchers

- 1.1. In light of the standards listed in Section III that form a universal code of integrity, everyone involved in research at RBG Kew must adhere to the Code of Practice outlined here and apply the commitments and standards of research integrity to these practices. Additionally, as individuals employed within the public sector, all RBG Kew staff are expected to adhere to the government's <u>Seven Principles of Public Life</u>.
- 1.2. RBG Kew expects all Researchers to observe the highest standards of ethics and integrity in the conduct of their research. In doing so they must:
  - Acquaint themselves with guidance as to best research practice and standards of integrity; for example, the <u>Code of Practice for Research</u> published by the UK Research Integrity Office and the Concordat to Support Research Integrity.

- Work with colleagues across RBG Kew to promote and maintain a research environment that encourages research integrity.
- Act with honesty with regards to their own research and in their responses to the actions
  of other Researchers. This applies to the whole range of research work, including
  designing experiments, source of data, generating and analysing data, applying for
  funding, publishing results (including appropriate acknowledgement of others'
  contributions), and when peer reviewing the work of other researchers. Researchers
  must only publish their articles with reputable publications and must not engage with
  fraudulent 'paper mills', i.e. a researcher pays for a company to provide fake research
  articles that are supposedly authored by them, thereby purchasing authorship and
  gaining a quick publication. See Section IV, 5.1 to 5.14, 'Publication policy and guidance
  for Kew Science authors' for details.
- Ensure that they have the necessary skills and training for their field of research.
- Ensure that any research undertaken complies with relevant RBG Kew policies and procedures as well as with funding agreements and/or terms and conditions relating to the project.
- Be fully aware of and compliant with the appropriate ethical and legal requirements set out by statutory and regulatory authorities. Ethical review approval for research should be sought as appropriate, including for ethnobotanical research that collects knowledge and information about plant use.
- Ensure that appropriate actions are taken to safeguard those associated with, or taking part in, their research.
- Ensure that overseas fieldwork conducted in RBG Kew's name is in line with international law and best practice and that the expectations of RBG Kew's in-country partners are met and carry out due diligence on partners, bearing in mind with sensitivity that partners may be based in DAC-listed countries and may have to agree to adhere to RBG Kew's policies if they are unable to provide their own.
- Be open about and manage appropriately conflicts of interest, declaring any actual or potential conflicts of interest as soon as they arise to their manager and in line with any specific rules appropriate to the matter. A conflict of interest is any situation where an individual's personal interests or the duties/loyalties that they owe another may influence or appear to influence their decision-making. It may be actual, where there is a conflict between one or more interests, or potential, where there is possibility of a conflict between one or more interests in the future.
  - UKRI further defines <u>conflicts of interest</u> as "A situation in which an individual's ability to exercise judgement or act in one role is, could be, or is seen to be impaired or otherwise influenced by their involvement in another role or relationship."
- Ensure that any research undertaken complies with appropriate health and safety legislation and regulation.

# 2. Responsibilities of RBG Kew

2.1. In expecting Researchers to adhere to the code of practice, RBG Kew must

- Ensure that the research environment at RBG Kew promotes and embeds a commitment to research integrity, and that suspected cases of research misconduct are dealt with according to RBG Kew policy.
- Provide appropriate and ongoing training to ensure Researchers have the necessary skills for their field of research.
- Provide clear guidance on the requirements for managing primary data (data collected by the researcher whereas secondary data has been gathered by others) and other research materials. All staff must adhere to the General Data Protection Regulation (GDPR) and refer to the Information Commissioner's Office for current information regarding data protection. Special consideration should be given to all stages of data usage and storage, in transit or at rest, and whatever local legal framework is in force.
- Provide, as part of the induction and ongoing training of Researchers at RBG Kew, guidance and information on relevant policies and procedures.
- Ensure that Researchers are aware of, and understand policies and procedures relating to ethical approval where it is required.
- Support Researchers to adopt best practice in relation to ethical, legal and professional requirements and ensure that they can access advice and guidance on ethical, legal and professional obligations and standards as needed.

# **3. Definition and identification of misconduct in research**

- 3.1. The <u>Concordat to Support Research Integrity</u> defines research misconduct as "behaviours or actions that fall short of the standards of ethics, research and scholarship required to ensure that the integrity of research is upheld."
- 3.2. Misconduct in research may be broadly classified into a number of categories:
  - Fabrication/falsification in proposing, carrying out, or reporting the results of research. This also relates to the accuracy of information in connection with applications for funding or reporting the outcomes of research funding.
  - Plagiarism, misquoting, taking undue credit, taking undeserved authorship, or other misappropriation of the work of others. This also includes the unethical use of privileged material (for example, material seen in reviewing or refereeing).
  - Failure to follow established protocols, particularly if such failure results in unreasonable risk or harm to others or to the environment.
  - Ethically inappropriate use of the outcomes of research.
  - Collusion in or deliberate concealment of any of the above actions entered into by others.
  - Failure to comply with relevant legal requirements or legally-binding agreements.
  - Failure to disclose conflicts of interest including situations where researchers have an existing or potential financial interest or other personal gain in the outcome of the research and accepting requests to review manuscripts or grant applications in direct competition with the researcher's own research.
  - Researchers are encouraged to report cases of suspected misconduct by following the RBG Kew <u>grievance procedure</u>, and to do so in a responsible and appropriate manner. RBG Kew encourages researchers to feel confident in raising genuine concerns about misconduct. No individual should suffer by reporting reasonably held suspicions in line with this policy.

# 4. Procedure in the event of suspected research misconduct

- 4.1. Researchers are encouraged to report cases of suspected misconduct, and to do so in a responsible and appropriate manner. RBG Kew encourages researchers to feel confident in raising genuine concerns about misconduct. No individual should suffer by reporting reasonably held suspicions in line with this policy.
- 4.2 This will be carried out in accordance with the policy and procedures set out in RBG Kew's <u>Whistleblowing policy</u> and <u>Disciplinary policy and procedure</u>. Concerns or suspicions should be raised internally in the first instance and RBG Kew provides several routes to do this, which are set out in these policies.
- 4.3. In accordance with the Disciplinary Policy and Procedure, prior to any formal action being taken, appropriate investigations will be carried out and the researcher will be given an opportunity to present their case at a formal hearing held by the disciplinary panel (panel chair to be appointed specific to the case) in accordance with the Disciplinary Policy and Procedure. Where facts are in dispute, decisions will be made on the balance of probability and reasonable belief.
- 4.4. If misconduct has been established through application of the Disciplinary Policy and Procedure, the Director may, in addition to any sanctions to be imposed, convey the outcome to research funders, the editors of any journals which have published articles by the person against whom the allegation has been upheld, and any other relevant bodies.

# **5. Publication policy and guidance for Kew Science authors**

- 5.1. RBG Kew encourages the publication of diverse scientific outputs across varied channels. This is critical for fulfilling our mission and developing the careers of individual researchers. To uphold our high standards and to avoid reputational damage, publications affiliated to RBG Kew should be aligned with the <u>Science Strategy 2021-2025</u>, consistent with current institutional values, practices and policies, and of sufficiently high quality. This policy clarifies certain aspects of the publication process. It applies to all staff, students and associates (e.g., HRAs, HRFs) who publish under an RBG Kew affiliation.
- 5.2. RBG Kew and researchers should accept their duty to publish and disseminate research in a manner that reports the research and all the findings of the research accurately and without selection that could be misleading.
- 5.3. As a general principle, papers should only be published in peer-reviewed journals. Even so, if an author suspects that a journal has a non-standard review mechanism, does not adequately address conflicts-of-interest, or in general follows a process that does not uphold accepted standards, they should seek guidance from the Senior Research Leader (SRL) of their team. There are also some useful resources online for identifying 'predatory journals', which may charge exorbitant fees while not following legitimate peer review and editorial processes (e.g., <a href="https://predatoryreports.org/the-list">https://predatoryreports.org/the-list</a>).
- 5.4. Researchers should declare any potential or actual conflicts of interest in relation to their research when reporting their findings at meetings or in publications.
- 5.5. Science staff should discuss their publication plans with their line manager or team leader as part of the appraisal system. In addition, researchers below RL level must notify their team

leader (RL or equivalent) before submission of a publication. MSc/PhD students and Honorary Research Associates should discuss their publication plans with their RBG Kew supervisor or sponsor in the same way. Discussions should be held prior to submission, and preferably at an early stage of planning. In cases where a publication might be perceived as overly critical, controversial, provocative, non-collaborative or otherwise contrary to RBG Kew's prevailing practice or damaging to our international position and reputation, all staff should seek guidance from their line managers. In case of doubt, err on the side of caution and always consult and discuss your publication plans with others. In the event of a difference of opinion on the suitability for publication under the RBG Kew affiliation, the parties must seek further guidance from their Priority Leader or Deputy Director of Science.

- 5.6. Publications prepared for outlets that may not routinely use peer review (e.g., Floras, books, magazine articles) must also be drawn to the attention of senior managers as described above. Necessary arrangements must be agreed to ensure that scientific quality is upheld (e.g., sending drafts to colleagues for critique before publication, or ensuring editors engage closely with relevant experts).
- 5.7. Authors should take care to ensure all contractual procedures resulting from commercial funding or the use of data provided under a restricted licence have been followed; and to also check if there any publication commitments arising from access agreements to collect and use plant or fungal material.
- 5.8. RBG Kew should ensure that sponsors and funders of research: respect the duty of researchers to publish their research and the findings of their research; do not discourage or suppress appropriate publication or dissemination; and do not attempt to influence the presentation or interpretation of findings inappropriately.
- 5.9. Publications involving material imported under an Animal and Plant Health License should quote the license number used to import the material. Where relevant, collecting/research permit numbers and facilitating authorities or partners should be acknowledged.
- 5.10. Authors considering the publication of a book or similar output, for example as part of a project, should consult Kew Publishing (<u>publishing@kew.org</u>) before any decisions are made, to ensure any outputs are consistent with Kew Publishing quality and style.
- 5.11. Plagiarism of any kind is not tolerated. Authors should also be aware that they should not reproduce text or figures that they have previously published, unless the original license or copyright arrangement allows this. If material from another source is used, authors should ensure that the third party's copyright policy is adhered to, including any required acknowledgement, copyright statement or clear reference to the original work.

#### 5.12. RBG Kew affiliation standards:

- RBG Kew staff may use multiple affiliations where relevant. If authors move institution, RBG Kew must still be listed as an affiliation if any part of the work was conducted while employed by RBG Kew.
- Kew MSc students, PhD students, and Honorary Researchers. are expected to publish research
  resulting from their activities at Kew using the RBG Kew address (in addition to their university or
  home institution, where relevant).
- Honorary Researchers (Honorary Research Associates and Fellows) should, prior to submission
  of every manuscript where they intend to use an RBG Kew affiliation, seek their RBG Kew staff
  sponsor's agreement that this is appropriate. The work contained in a paper citing an RBG Kew
  affiliation must have a material connection to the author's activities with or for RBG Kew.
- To maximise clarity, impact and consistency, when submitting manuscripts for publication using an RBG Kew affiliation:

- Staff on the RBG Kew site should all use the general Kew address, as follows, and not the individual buildings and their respective postcodes: Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE, UK.
- Staff based at the Millennium Seed Bank or general Wakehurst site should use: Royal Botanic Gardens, Kew, Wakehurst, Ardingly, Haywards Heath, West Sussex, RH17 6TN, UK.
- KMCC staff should use: Royal Botanic Gardens, Kew, Kew Madagascar Conservation Centre, Lot II J 131 B Ambodivoanjo, Ivandry, 101 Antananarivo, Madagascar.
- Staff working across sites should just list one affiliation, based on the site they spend most time at.
- Addresses can be shortened to omit postcodes etc. to match the style of the journal where necessary.
- Staff should not specify departments unless prompted but should use 'Science Directorate' if this is a necessary field.

#### 5.13. Further guidance

- Staff should aim to publish in Open Access journals and platforms wherever possible (referred to as Gold Open Access). This is now a requirement from some funders, so always check the terms of any agreements. More information about this, and on our current Open Access agreements with publishers can be found on Kewnet: <u>https://kewnet.kew.org/task/open-access-publishing</u>.
- If not as above, then the Open Access requirements should be met through self-archiving (referred to as Green Open Access) by making use of the Kew Research Repository (<u>https://kew.iro.bl.uk/</u>) and similar repositories in partner universities and institutions. This usually involves depositing the final accepted version of the manuscript (after peer review but before final editing and typesetting by the publisher) along with a link to the final publication.
- Concerning copyright, Kew is an ALB (arm's length body) or non-departmental public body (NDPB), and we are not considered to be government employees. We are therefore not constrained by crown copyright, usually publish under CC-BY licenses, and should where possible sign copyright agreements that allow us to retain rights to papers while allowing the journal exclusive rights to publish it.
- When an article has been accepted for publication, staff should notify the Science Communication team (science@kew.org), giving the title and brief outline of the content of the paper and the journal in which it will be published. This will allow the team to plan social media publicity and blog posts around the article, where appropriate. If you think the subject could be of interest to the press, please alert both the Science Communication team and Heather McLeod in the Press Office (h.mcleod@kew.org). Any planned articles (by Kew Science or project partners) in popular or social media should also be discussed with the Science Communication and Press Office teams prior to submission, particularly if likely to gain a large amount of media attention.
- Details of all published journal and conference papers, books, book chapters, reports and datasets should be sent to <u>science@kew.org</u> as soon as they are published. This ensures we can maintain accurate records and add details of the publications to the RBG Kew Research Repository. It is also essential for timely reporting of publication numbers. Please include the title of the work, along with a DOI, ISBN or url, and state whether the publication is open access, which Science Priority/ies were involved, and whether any Living Collections were used in the research. Where there isn't a DOI, please send full citation details and any associated metadata. See Kewnet pages for more information: <u>https://kewnet.kew.org/task/staff-publications/</u>.
- For Green Open Access, the accepted version of the manuscript should be sent for uploading to the repository as soon as possible after publication, provided any embargo periods have expired. Any time constraints or other conditions should be flagged when sending the details to <u>science@kew.org</u>. More information on the repository can be found on Kewnet: <u>https://kewnet.kew.org/team-pages/science-directorate/science-comms/research repository/</u>
- RBG Kew supports the use of preprint repositories such as bioRxiv (<u>www.biorxiv.org</u>). It is
  recommended that these services are only used for manuscripts that have been (or will soon be)
  submitted for review by a peer-reviewed journal, rather than for incomplete work, and should be
  discussed with line mangers prior to posting in the same way as publications submitted for review.

For those inexperienced in the use of preprint servers, the following review may be informative: <u>http://www.sciencemag.org/news/2017/09/are-preprints-future-biology-survival</u> guide-<u>scientists</u>. Note that for some journals (e.g., *New Phytologist* and *PNAS*), the preprint is prioritised in the Google Scholar database and so it is the preprint version that will be retrieved in searches and displayed on profile pages instead of the final, official journal publication, often for many months. It may also affect citations. If you use Google Scholar, please ensure you manually add any publications that have had preprints.

 Researchers should be aware that submitting research reports to more than one potential publisher at any given time (i.e. duplicate submission) or publishing findings in more than one publication without disclosure and appropriate acknowledgement of any previous publications (i.e. duplicate publication) is unacceptable.

#### 5.14. Guidelines for authorship:

- Authorship should be discussed, agreed and decisions recorded at an early stage of the study prior to the manuscript writing stage, and revisited where roles and contributions change over the lifecycle of the research.
- Authorship is warranted when an individual has made a substantial contribution to the concept
  or design of the work, the acquisition, analysis, interpretation or visualisation of data, the creation
  of new methods used in the work, or has drafted significant parts of the text or substantially
  revised it. Authors agree to be accountable for their contributions, and should all have approved
  the final version of a paper (and any substantially modified version that involves the author's
  contribution to the study) before submission.
- The CRediT (Contributor Roles Taxonomy) system <u>https://credit.niso.org/</u> provides a description
  of 14 roles typically undertaken by contributors to research outputs and can be useful for defining
  author contributions.
- Individuals who contributed to or funded the work, but whose contributions were not substantial enough to meet the criteria for inclusion as an author should be appropriately acknowledged.
- Kew Science staff are encouraged to be inclusive in recognising contributions of e.g. curatorbotanists, lab technicians, early career researchers, students, interns and (overseas) partners, where significant contributions have been made
- It is best practice to involve partners in publications arising from material collected by RBG Kew staff on fieldwork or as part of any other collaboration.
- Experienced RBG Kew Science staff are urged to offer opportunities to less experienced staff, to aid their professional development.
- Authorship should not be allocated to line managers or senior managers who have not made a significant intellectual or practical contribution to the work. Authorship cannot be granted to an individual in return for paying publication charges from an account they are responsible for. Researchers should be aware that anyone listed as an author of any work should be prepared to take public responsibility for that work and ensure its accuracy, and be able to identify their contribution to it.
- Staff are encouraged to the adhere to the Global Ethics Code when collaborating with partners in the Global South, and ensure intellectual contributions that justify co-authorship are recognised.
- If disagreement exists about authorship or acknowledgement of individuals, guidance should be sought from the relevant Senior Research Leader / Priority Leader / Deputy Director of Science prior to submission. In the event of a disagreement among authors, the lead author's view would normally take precedence, or the senior author where the work is funded and supervised by them. Following the guidance set out in this document should help to avoid such situations.

# **Section V - Related policies, procedures and**

# guidance

- 1.1. This Research Integrity Policy will operate in conjunction with other RBG Kew policies and procedures including (but not limited to) the following:
  - Disciplinary policy and procedure
  - Whistleblowing policy
  - Identifying and managing conflicts of interest
  - Guidance on managing intellectual property
  - Policy on access to genetic resources and benefit-sharing
  - Planning an overseas fieldwork trip
  - <u>CITES, EU Wildlife Trade Regulations and Kew</u>
  - Health and safety policies and guidance
  - Open access publishing: advice for Kew authors
  - <u>Traditional knowledge collecting material and information</u>
  - Code of conduct
  - Equality, Diversity and Inclusion strategy
  - <u>The Athena Swan Charter</u> for gender equality in academia
  - Data Protection
  - <u>The Government's Universal Ethical Code for Scientists</u>

# Annex 1: Standards for RBG Kew and Researchers – UK Research Integrity Office

Continued from page 6.

# **1.** Leadership and supervision

1.1. RBG Kew and researchers should promote and maintain an environment which fosters and supports research of high ethical standards, mutual co-operation, professionalism and the open and honest exchange of ideas. They should foster a culture where good conduct in research is promoted and inappropriate conduct is identified and addressed.

1.2. RBG Kew should provide direction and supervision of research and researchers, setting out clear lines of accountability for the organisation and management of research. They should support supervisors and researchers in meeting the legal and ethical requirements of conducting research.

RBG Kew should encourage the career development of their researchers and provide training and mentoring of new researchers. RBG Kew should also offer training and support to those charged with the supervision and development of other researchers. RBG Kew should support the commitments of The Concordat to Support the Career Development of Researchers.

1.3 Researchers involved in the supervision and development of other researchers should be aware of their responsibilities and ensure that they have the necessary training, time and resources to carry out that role, and request support if required.

# **2. Training and mentoring**

2.1. RBG Kew should provide training for researchers to enable them to carry out their duties and develop their knowledge and skills throughout their career. This should include training in the Standards for RBG Kew and researchers in the responsible design, conduct and dissemination of research. RBG Kew should support researchers in identifying unmet needs for training and development. RBG Kew should provide qualified mentors to assist in the training and career development of new researchers and also provide career development and educational opportunities for researchers who are more established in their careers. RBG Kew should support the principles of The Concordat to Support the Career Development of Researchers.

2.2. RBG Kew should provide particular support for student researchers. RBG Kew should make sure that student researchers understand which standards and RBG Kew's policies and procedures they are expected to comply with.

2.3. Researchers should undergo training in order to carry out their duties and to develop their knowledge and skills throughout their career, repeating training where necessary to ensure that skills are kept up to date. They should identify needs for training when they arise and report them to their manager or other appropriate person as identified by RBG Kew.

# 3. Research design

3.1. When designing research projects, RBG Kew and researchers should ensure that: a. the proposed research addresses pertinent question(s) and is designed either to add to existing knowledge about the subject in question or to develop methods for research into it; b. the design of the study is appropriate for the question(s) being asked and addresses the most important potential sources of bias; c. the design and conduct of the study, including how data will be gathered, analysed and managed, are set out in detail in a prespecified research plan or protocol; d. all necessary skills and experience will be available to carry out the proposed research, in the proposed research team or through collaboration with specialists in relevant fields; e. sufficient resources will be available to carry out the proposed research and that these resources meet all relevant standards; and f. any issues relating to the above are resolved as far as possible prior to the start of the research.

3.2. RBG Kew (where appropriate) and researchers should conduct a risk assessment of the planned study to determine: a. whether there are any ethical issues and whether ethics review is required; b. the potential for risks to RBG Kew, the research, or the health, safety and wellbeing of researchers and research participants; and Standards for organisations and researchers; c. what legal requirements govern the research.

3.3. Where the design of a study has been approved by ethics, regulatory or peer review, RBG Kew and

researchers should ensure that any subsequent alterations to the design are subject to appropriate review to determine that they will not compromise the integrity of the research or any terms of consent previously given.

3.4. RBG Kew should set up systems to ensure that when there are risks that proposed research or its results may be misused for purposes that are illegal or harmful, those risks are identified and addressed. RBG Kew should make these systems known to researchers and provide guidance and support to researchers on projects where such risks are identified.

3.5. Researchers should try to anticipate any risks that the proposed research might produce results that could be misused for purposes that are illegal or harmful. Researchers should report any risks to, and seek guidance from, the appropriate person(s) in RBG Kew and take action to minimise those risks.

3.6. Researchers should be prepared to make research designs available to peer reviewers and journal editors when submitting research reports for publication.

# 4. Collaborative working

4.1. RBG Kew and researchers should pay particular attention to projects which include participants from different countries or where work will be carried out in another country due to the additional legal and ethical requirements and other guidelines that may apply. RBG Kew should work with partner organisations to ensure the agreement of, and compliance with, common standards and procedures for the conduct of collaborative research, including the resolution of any issues or problems that might arise and the investigation of any allegations of misconduct in research if they occur.

4.2. Researchers should be aware of the standards and procedures for the conduct of research followed by any organisations involved in collaborative research that they are undertaking, in particular if the partner and researchers are based in DAC-listed countries. They should also be aware of any contractual requirements involving partner organisations, seeking guidance and assistance where necessary and reporting any concerns or irregularities to the appropriate person(s) as soon as they become aware of them.

4.3. Researchers should try to anticipate any issues or vulnerabilities that might arise as a result of working collaboratively and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team. In particular, agreement should be sought on the specific roles of the researchers involved in the project and on issues relating to intellectual property, publication, and the attribution of authorship, recognising that, subject to legal and ethical requirements, roles and contributions may change during the time span of the research.

# **5. Conflicts of interest**

5.1. RBG Kew and researchers must recognise that conflicts of interest (i.e. personal or institutional considerations, including but not limited to financial matters) can inappropriately affect research. Conflicts of interest must be identified, declared and addressed in order to avoid poor practice in research or potential misconduct.

5.2. When addressing a conflict of interest, it must be decided whether it is of a type and severity that poses a risk of fatally compromising the validity or integrity of the research, in which case researchers

and RBG Kew should not proceed with the research, or whether it can be adequately addressed through declarations and/or special safeguards relating to the conduct and reporting of the research.

5.3. RBG Kew should have a clearly written and accessible policy for addressing conflicts of interest, including guidance for researchers on how to identify, declare and address conflicts of interest, and should disseminate and explain the policy to researchers. RBG Kew should ensure that researchers understand the importance of recognising, disclosing and addressing conflicts of interest in the conduct and reporting of research.

5.4. RBG Kew should comply with the requirements of their policy for addressing conflicts of interest, as well as any external requirements relating to conflicts of interest, such as those of funding bodies. Senior staff should be aware of potential or actual conflicts of interest at the institutional level and disclose them when they arise so that they can be addressed.

5.5. Researchers should comply with RBG Kew's policy for addressing conflicts of interest, as well as any external requirements relating to conflicts of interest, such as those of funding bodies. This should include declaring any potential or actual conflicts of interest relating to their research to: their manager or other appropriate person as identified by RBG Kew ; any ethics committee which reviews their research; and when reporting their findings at meetings or in publications. Conflicts of interest should be disclosed as soon as researchers become aware of them.

5.6. Researchers should agree to abide by any direction given by RBG Kew or any relevant ethics committee in relation to a conflict of interest.

# 6. Research involving human participants, clinical trials or personal data

6.1. RBG Kew's research remit is plant and fungal science. In the event that RBG Kew researchers collaborate on projects with partners whose remit is to carry out trials that involve human participants, the following terms apply:

6.2. RBG Kew and researchers should make sure that any research involving human participants, human material or personal data complies with all legal and ethical requirements and other applicable guidelines. Appropriate care should be taken when research projects involve: vulnerable groups, such as the very old, children or those with mental illness; and covert studies or other forms of research which do not involve full disclosure to participants. The dignity, rights, safety and wellbeing of participants must be the primary consideration in any research study. Research should be initiated and continued only if the anticipated benefits justify the risks involved.

6.3. When conducting or collaborating in research in other countries, RBG Kew and researchers based in the UK should comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted. Similarly, partner organisations and researchers based abroad who participate in UK-hosted research projects should comply with the legal and ethical requirements existing in the UK as well as those of their own country.

6.4. RBG Kew and researchers should ensure the confidentiality and security of: personal data relating to human participants in research; and human material involved in research projects.

6.5. RBG Kew should set up systems to ensure appropriate ethical, regulatory and peer review of

research projects involving human participants, clinical trials or personal data. The systems should include mechanisms to ensure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise.

6.6. RBG Kew should also set up systems to ensure that appropriate procedures for obtaining informed consent are established and observed in projects involving human participants, having particular regard to the needs and capacity of the subjects involved.

6.7. RBG Kew should set up systems to ensure the confidentiality and security of: personal data relating to human participants in research; and human material involved in research projects.

6.8. RBG Kew should make sure that their researchers are aware of all of the above systems and have access to all relevant guidance and legal and ethical frameworks.

6.9. Researchers should submit research projects involving human participants, human material or personal data for review by all relevant ethics committees and abide by the outcome of those reviews. They should also ensure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise.

6.10. Researchers on projects involving human subjects must satisfy themselves that participants are enabled, by the provision of adequate accurate information in an appropriate form through suitable procedures, to give informed consent, having particular regard to the needs and capacities of vulnerable groups, such as the very old, children and those with mental illness.

6.11. Researchers should inform research participants that data gathered during the course of research may be disseminated not only in a report but also in different forms for academic or other subsequent publications and meetings, albeit not in an identifiable form, unless previously agreed to, and subject to limitations imposed by legislation or any applicable bodies, ethical, regulatory or otherwise.

6.12. Researchers who are members of a regulated profession must ensure that research involving human participants, human material or personal data complies with any standards set by the body regulating their profession.

6.13. Researchers have a duty to publish the findings of all clinical research involving human participants. In addition, it is government policy to promote public access to information about any research and research findings affecting health and social care, including the principle that trials should appear on public registers. In this context "trials" means all comparative studies of health interventions, not just ones conducted in a clinical setting.

6.14. If researchers consider that human participants in research are subject to unreasonable risk or harm, they must report their concerns to their manager, or other appropriate person as identified by RBG Kew, and, where required, to the appropriate regulatory authority. Similarly, concerns relating to the improper and/or unlicensed use or storage of human material, or the improper use or storage of personal data, should be reported.

# 7. Research involving invertebrates/ projects within wildlife habitats

7.1. RBG Kew and researchers should make sure that research involving invertebrates adheres to all

legal and ethical requirements and other applicable guidelines. They should consider the opportunities for reduction, replacement and refinement of involving invertebrates in research projects and should refer to the relevant guidance.

7.2. When conducting, or collaborating in, research in other countries, RBG Kew and researchers based in the UK should comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted. Similarly, partner organisations and researchers based abroad who participate in UK-hosted research projects should comply with the legal and ethical requirements existing in the UK as well as those of their own country.

7.3. RBG Kew should set up systems to ensure the ethical, regulatory and peer review of research projects involving wildlife. The systems should include mechanisms to make sure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise.

7.4. RBG Kew should make sure that their researchers are aware of the above systems and have access to all relevant guidance and legal and ethical frameworks.

7.5. Researchers should submit research projects involving invertebrates for review by all relevant ethics committees and abide by the outcome of that review. They should also ensure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise.

7.6. If researchers consider that invertebrates involved in research are subject to unreasonable risk or harm, they must report their concerns to their manager or other appropriate person as identified by RBG Kew, and, where required, to the appropriate regulatory authority.

7.7. Researchers entering the natural habitats of wildlife must cause minimal disruption or destruction of these habitats and must not disturb or remove nests, dens, or other dwellings. Researchers must take wildlife breeding seasons into consideration.

7.8. RBG Kew does not experiment on sentient animals.

7.9. Where RBG Kew collaborates with organisations that work with wildlife as part of the collaborative project, RBG Kew must conduct due diligence on the organisation to ensure their practices are lawful, with a thorough level of due diligence to be carried out on any partner that is new to RBG Kew. Downstream partners must provide a copy of their own policy regarding their work in wildlife habitats or agree to adhere to RBG Kew's if their own policy is unavailable. Researchers must also ensure that the key principles (known as the 3Rs) of the National Centre for the Replacement, Refinement & Reduction of Animals in Research are upheld, which is <u>a requirement of UKRI</u>. These are:

**Replacement:** Avoiding or replacing animal use e.g. using cell cultures, computer modelling, or human tissue or volunteers.

**Reduction:** Where animal use is necessary, keeping numbers to the minimum e.g. using statistical methods to determine the smallest number of animals that can be used in an experiment.

**Refinement:** Where animal use is necessary, minimising pain and suffering and improving welfare e.g. using pain relief and providing housing that allows animals to perform their natural behaviours.

# 8. Health and safety

8.1. RBG Kew and researchers should ensure that all research carried out under their auspices, or for which they are responsible, fulfils all requirements of health and safety legislation and good practice. They should bear in mind that certain types of research, for example social research in a conflict zone, can present particular issues of health and safety. They should ensure that all research which involves potentially hazardous or harmful material or which might cause harm to the environment complies with all legal requirements and other applicable guidelines.

8.2. RBG Kew should set up systems to ensure that such research undergoes all forms of appropriate review in accordance with its policy on health and safety.

8.3. Researchers should submit such research for all forms of appropriate review and abide by the outcome of that review.

8.4 Researchers should carry out an appropriate risk assessment as part of the project design and revisit this throughout the lifetime of the project,

# 9. Intellectual property

9.1. RBG Kew and researchers should ensure that any contracts or agreements relating to research include provision for ownership and use of intellectual property. Intellectual property includes, but is not limited to: research data and other findings of research; ideas, processes, software, hardware, apparatus and equipment; substances and materials; and artistic and literary works, including academic and scientific publications.

9.2. RBG Kew and researchers should not give prior disclosure of research or the findings of research when this might invalidate any commercial property rights that could result. RBG Kew and researchers should recognise, however, that the presumption should be that any intellectual property discovered or developed using public or charitable funds should be disseminated in order to have a beneficial effect on society at large. That presumption may be rebutted where there is an express restriction placed on any such dissemination. Any delay in publication and dissemination pending protection of intellectual property should be kept to a minimum.

9.3. RBG Kew and researchers should comply with any additional conditions relating to intellectual property required by funding bodies.

9.4 RBG Kew should clearly state when the standard guidance might not apply; for example, a university would normally waive copyright of articles prepared for publication in journals or books.

9.5 Researchers should try to anticipate any issues that might arise relating to intellectual property at the earliest opportunity and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team.

# **10. Finance**

10.1. RBG Kew and researchers should ensure that the terms and conditions of any grant or contract related to the research are adhered to.

10.2. RBG Kew should issue guidelines regarding the purchasing or procurement of materials,

equipment or other resources for research and the hiring of staff for research projects. These guidelines should include statements on the ownership of resources and the rights of researchers to use them. RBG Kew should also set up procedures for the monitoring and audit of finances relating to research projects.

10.3 Researchers should comply with RBG Kew's guidelines regarding the use and management of finances relating to research projects. They should cooperate with any monitoring and audit of finances relating to research projects and report any concerns or irregularities to the appropriate person(s) as soon as they become aware of them.

# **11. Collection and retention of data**

11.1 All RBG Kew staff must read and adhere to RBG Kew's <u>Data Protection Policy</u> and refer to the further data protection procedures available to them on Kewnet.

11.2 RBG Kew and researchers should comply with all legal, ethical, funding body and organisational requirements for the collection, use and storage of data, especially personal data, where particular attention should be paid to the requirements of data protection legislation. They should also maintain confidentiality where undertakings have been made to third parties or to protect intellectual property rights. RBG Kew and researchers should ensure that research data relating to publications is available for discussion with other researchers, subject to any existing agreements on confidentiality.

11.3 Data should be kept intact for any legally specified period and otherwise for three years at least, subject to any legal, ethical or other requirements, from the end of the project. It should be kept in a form that would enable retrieval by a third party, subject to limitations imposed by legislation and general principles of confidentiality.

11.4. RBG Kew and researchers should comply with any subject-specific requirements for the retention of data; for example, certain disciplines, such as health and biomedicine, may require research data to be retained for a considerably longer period.

11.5. If research data is to be deleted or destroyed, either because its agreed period of retention has expired or for legal or ethical reasons, it should be done so in accordance with all legal, ethical, research funder and organisational requirements and with particular concern for confidentiality and security.

11.6. RBG Kew should have in place procedures, resources (including physical space) and administrative support to assist researchers in the accurate and efficient collection of data and its storage in a secure and accessible form.

11.7. Researchers should consider how data will be gathered, analysed and managed, and how and in what form relevant data will eventually be made available to others, at an early stage of the design of the project.

11.8. Researchers should collect data accurately, efficiently and according to the agreed design of the research project, and ensure that they are stored in a secure and accessible form.

# **12.** Monitoring and audit

12.1. RBG Kew and researchers should ensure that research projects comply with any monitoring and audit requirements. They should make sure that researchers charged with carrying out such monitoring

and audits have sufficient training, resources and support to fulfil the requirements of the role.

12.2. RBG Kew should monitor and audit research projects to ensure that they are being carried out in accordance with good practice, legal and ethical requirements, and any other guidelines, adopting a risk-based and proportional approach.

12.3. Researchers should consider any requirements for monitoring and audit at an early stage in the design of a project.

12.4. Researchers should cooperate with the monitoring and audit of their research projects by applicable bodies and undertake such when required. They should cooperate with any outcomes of the monitoring and audit of their research projects. If they become aware of a need for monitoring and audit where it is not already scheduled, they should report that need to the appropriate person(s).

## **13.** Peer review

13.1. RBG Kew and researchers should be aware that peer review is an important part of good practice in: the publication and dissemination of research and research findings; the assessment of applications for research grants; and in the ethics review of research projects.

13.2. RBG Kew should encourage researchers to act as peer reviewers for meetings, journals and other publications, grant applications and ethics review of research proposals, and support those who do so. They should recognise the obligations of peer reviewers to be thorough and objective in their work and to maintain confidentiality, and should not put pressure, directly or indirectly, on peer reviewers to breach these obligations.

13.3. Researchers who carry out peer review should do so to the highest standards of thoroughness and objectivity. They should follow the guidelines for peer review of any organisation and journal for which they carry out such work.

13.4 Researchers should maintain confidentiality and not copy any material under review or retain material for longer than is necessary for the review process without the express written permission of the organisation which requested the review. They should not make use of research designs or research findings from a paper under review without the express permission of the author(s) and should not allow others to do so. Researchers acting as peer reviewers must declare any relevant conflicts of interest.

13.5 While carrying out peer review, researchers may become aware of possible misconduct, such as plagiarism, fabrication or falsification, or have ethical concerns about the design or conduct of the research. In such cases they should inform, in confidence, an appropriate representative of the organisation which requested the review, such as the editor of the relevant journal or chair of the relevant grants or ethics committee.

# **14. Misconduct in research**

14.1. RBG Kew should define what they consider to be misconduct in research and make it known to researchers. UKRI recommends adoption of the definition in The Concordat to Support Research Integrity: "Research misconduct can take many forms, including but not limited to:

• • fabrication: making up results, other outputs (for example, artefacts) or aspects of research,

including documentation and participant consent, and presenting and/or recording them as if they were real.

- Falsification: inappropriately manipulating and/or selecting research processes, materials, equipment, data, imagery and/or consents.
- Plagiarism: using other people's ideas, intellectual property or work (written or otherwise) without acknowledgement or permission.
- Failure to meet: legal, ethical and professional obligations, for example:
- not observing legal, ethical and other requirements for human research participants, or human organs or tissue used in research, or for the protection of the environment breach of duty of care for humans involved in research whether deliberately, recklessly or by gross negligence, including failure to obtain appropriate informed consent.
- misuse of personal data, including inappropriate disclosures of the identity of research participants and other breaches of confidentiality.
- improper conduct in peer review of research proposals, results or manuscripts submitted for publication. This includes failure to disclose conflicts of interest; inadequate disclosure of clearly limited competence; misappropriation of the content of material; and breach of confidentiality or abuse of material provided in confidence for the purposes of peer review.
- misrepresentation of:
  - data, including suppression of relevant results/data or knowingly, recklessly or by gross negligence presenting a flawed interpretation of data.
  - involvement, including inappropriate claims to authorship or attribution of work and denial of authorship/attribution to persons who have made an appropriate contribution.
  - interests, including failure to declare competing interests of researchers or funders of a study. qualifications, academic titles, experience and/or credentials. publication history, through undisclosed duplication of publication, including undisclosed duplicate submission of manuscripts for publication.
  - improper dealing with allegations of misconduct: failing to address possible infringements, such as attempts to cover up misconduct and reprisals against whistle-blowers, or failing to adhere appropriately to agreed procedures in the investigation of alleged research misconduct accepted as a condition of funding. Improper dealing with allegations of misconduct includes the inappropriate censoring of parties through the use of legal instruments, such as nondisclosure agreements. Honest errors and differences in, for example, research methodology or interpretations do not constitute research misconduct.

14.2. RBG Kew should establish and publicise a procedure to investigate allegations of misconduct in research (as in section 2.4) and ensure that any such allegations are investigated thoroughly, fairly and transparently, in a timely manner and with appropriate provisions of confidentiality. 15.3. RBG Kew should identify and make known one or more members of staff who have responsibility for investigating allegations of misconduct in research and whom researchers and external organisations, such as journals, can contact with any concerns about the conduct of research. They should make sure that

staff who investigate allegations have the necessary training, resources and support to fulfil the requirements of the role.

14.3. RBG Kew should make it clear to researchers that any misconduct in research is unacceptable and should be reported; that researchers who are found to have committed misconduct in research will be subject to disciplinary proceedings; and that where researchers are members of a regulated profession, cases of serious misconduct in research will be referred to the body regulating their profession. They should also make it clear that researchers who are found not to have committed misconduct will be supported and appropriate steps taken to restore their reputation and that of any relevant research project(s).

14.4. RBG Kew should support those who raise concerns about the conduct of research in good faith and not penalise them. This support should be in accordance with RBG Kew's policy on raising concerns or "whistle blowing".

14.5. Researchers should know what constitutes misconduct in research and report any suspected misconduct through the relevant procedure of RBG Kew as soon as they become aware of it. They should recognise that good practice in research includes reporting concerns about the conduct of research and should cooperate with any investigation of misconduct in research when requested. Researchers should work with their institution to support those who raise concerns in good faith about the conduct of research and those who have been exonerated of suspected misconduct.