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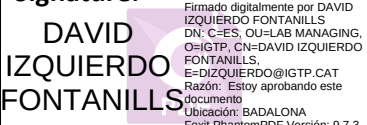
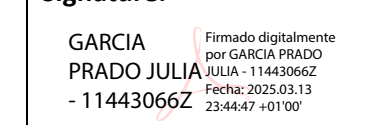
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Germans Trias i Pujol Research Institute (IGTP)

IGTP BEST PRACTICES HANDBOOK



Introduction

The Code of Best Practices of Germans Trias i Pujol Research Institute has been created to outline a general framework within which all personnel at our site must conduct their work.

This guide aims to uphold the highest standards of research by adhering to the ethical and legal guidelines outlined, fostering an atmosphere of mutual respect among individuals and ensuring a commitment to the protection of the environment. This is the only way to ensure a standard of excellence in the research conducted at our site.

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1. Responsibilities

1.1 Responsibilities of the centre

The Management team at Germans Trias i Pujol Research Institute must ensure that workplace facilities meet all the requirements and have the relevant authorisations to ensure that its personnel can conduct their work in a safe and respectful environment.

1.2 Responsibilities of all personnel

- Being respectful towards each other and, particularly, not engaging in any type of discrimination.
- Submitting a request to the appropriate body for authorization to conduct multiple activities in parallel, when applicable.
- Making effective and accountable use of material resources and the data obtained when conducting their duties.
- Adhering to the provisions or protocols in force in relation to situations of discrimination at the workplace and, in particular, those related to sexual and/or psychological harassment; and ensuring a fair and equal treatment that does not involve any type of discrimination, as outlined in the Protocol for prevention of workplace harassment, due to sexual and gender identity within the Institute.
- Maintaining strict confidentiality regarding all data, activities, business matters, or any information you become aware of, whether or not it relates to your specific tasks, and pertains to the Institute and/or its clients, including their identities and the research being conducted. This duty will remain in force even after the termination of the contractual relationship, as it is essential for safeguarding the unique nature of the activities conducted.
- Immediately reporting to IGTP any conflict of interest, defined as the influence of any financial interest beyond the contractual one, or any personal benefit beyond a scientific or professional interest.
- Reporting to the appropriate individuals or authorities any situation where the rights and freedoms of the personnel or the Institute have been infringed.
- Refraining from smoking outside the designated areas.
- Not accessing restricted areas, or allowing others to do so, without prior authorization from the relevant managers.

1.3 Responsibilities of all research personnel

- All researchers at the Institute (including trainees) have a moral and ethical obligation to adhere to internal standards, the ethical guidelines outlined in relevant national, industry, or institutional codes of ethics, and to make the best use of all available research equipment and materials to conduct high-quality research.
- All research personnel must strive to ensure that their work is socially relevant and does not duplicate previous research conducted by others.
- All research personnel must recognize their accountability to the institutions that employ them or provide funding, as well as to other related public or private entities, and, for ethical reasons, to the society as a whole. Publicly funded researchers must also make effective and accountable use of taxpayer money. All research personnel must, therefore, adhere to principles of proper, transparent, and efficient financial management, and cooperate with any authorized audit of their research, whether conducted by the funding entities or by an ethics committee.
- All research personnel are committed to adhering to the code of conduct outlined in the European Charter for Researchers, as well as the principles of Responsibility in Research and Innovation (RRI), including key areas such as participation, gender equality, science education, open access, ethics, and governance.

2. Best scientific practices

The principles of best scientific practices aim to enhance the quality of data, prevent study duplication, and save time and resources. The application of these principles should contribute to the continued improvement of human health and protection of the environment. These principles are described in the Royal Decree 1369/2000 (see section 1.1 of Annex 1).

2.1 Interaction between group members and members from different groups

Individuals, whether part of the same research group or not, should assist one another whenever possible, avoiding rivalries and fostering collaboration. A good working environment fosters motivation and facilitates the conduct of the daily tasks. Attitudes of contempt and/or confrontations are not tolerated at our site. An inclusive and equitable policy will be implemented to prevent discrimination on the basis of gender, sexual orientation, political affiliation, religion, ideology, and others.

2.2 Working in the lab

All research personnel at the Institute must take the necessary precautions to ensure their own safety, as well as the safety of others and the protection of the environment. All research personnel must wear the appropriate personal protective equipment (PPE) (including a 3/4 lab coat, gloves, glasses, mask, shoe coverings, and protective shoes as needed) according to each working protocol.

Group Leaders (Emergent, Consolidated or Senior) and laboratory managers will ensure that all members of their team read and follow all working protocols for the labs and the various communal areas of IGTP's facilities. All these protocols and procedures are available to all personnel in the section "Documents and procedures" of the IGTP Intranet.

All research-related activities must be documented in the corresponding laboratory notebook provided to each researcher by the laboratory coordinators. Data recording must always be done with a pen and the date must be noted at the top or side. No page may be torn out, and any corrections must be made by striking through the text with a line, ensuring that the original writing remains legible. The person responsible must sign and date the correction.

Images or results added to the notebook must be pasted in, and their edges should be signed.

Eating is not allowed in the labs.

2.3. Research instrumentation

All scientific instruments acquired by researchers linked to Germans Trias i Pujol Research Institute and previously authorized by the Institute are property of the Institute. If the researcher chooses to operate independently of IGTP, the equipment will remain at the Institute unless an agreement is reached and a transfer document is signed by both parties.

All facilities must be suitable for conducting the planned research work, ensuring both the safety of personnel and the quality of the results.

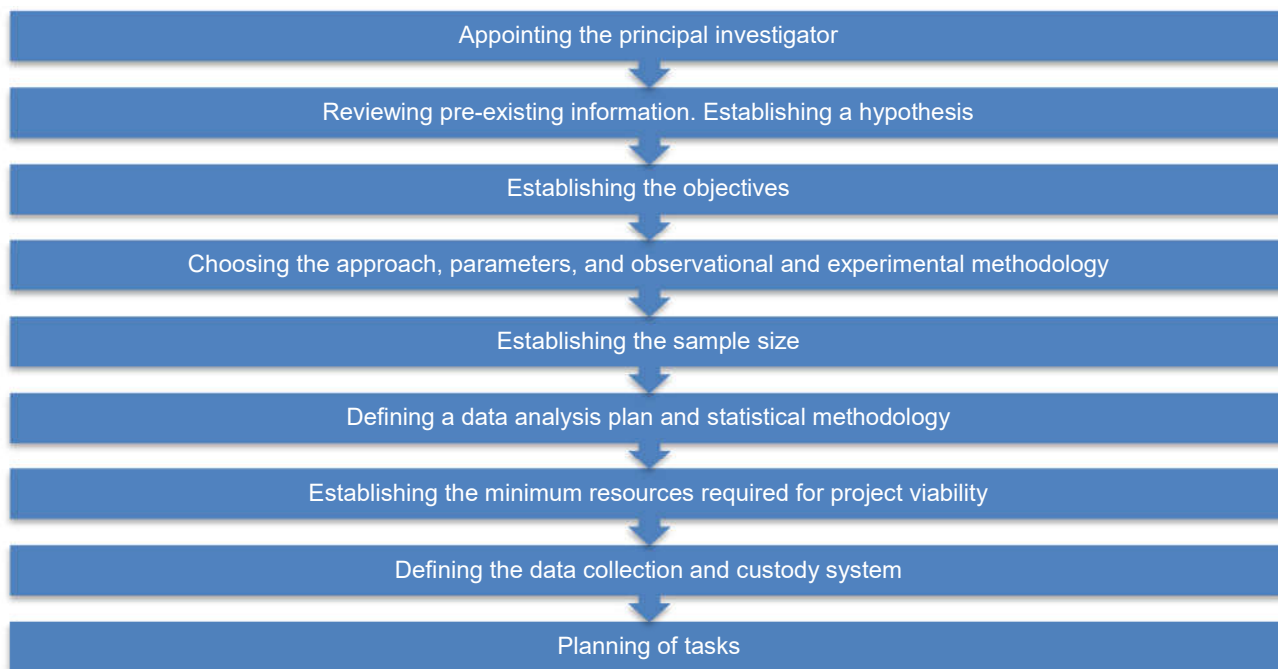
When using equipment for research purposes, personnel must ensure that the equipment is suitable and that users have the appropriate instructions for proper use.

All equipment used in research work must undergo mandatory preventive maintenance to ensure that potential malfunctions do not impact results. Similarly, scientific personnel must ensure at all times the reliability of the measurements provided by the equipment.

3. Planning a research project

Every research project requires certain essential planning aspects. Without these it cannot be considered a project, nor can it be registered as such by research institutions; therefore, it lacks the essential components for success.

The design phases of any research project are the following¹:



¹ In-house preparation based on the guidelines for good research practices in life sciences of the ICS 2015 (see reference 1 of Annex 3).

4. Monitoring of research personnel undergoing training

Anyone involved in a research project or Management Unit at our Institute is assigned a mentor for the purposes of receiving training (including predoctoral research personnel).

4.1 Responsibilities of the mentor

The mentor must guide the trainee by defining their objectives and taking responsibility for their educational progress. The mentor must guide and advise trainees to help them achieve their targets within the expected timeframe, ensuring they do not engage in tasks unrelated to their educational process. Any member of the research group with sufficient skills, knowledge, and experience can be a mentor. Predoctoral researchers may serve as mentors from their third year, but only for early training stages.

4.2 Number of individuals being trained by the same mentor

The number of individuals being trained by the same mentor must be appropriate and aligned with their duties and commitments, and it should never exceed two individuals, as long as the physical space and working conditions allow it. This limit may be exceeded in exceptional circumstances with prior authorization from the Management Team, provided that the physical space assigned to the group allows it.

4.3 Duties and responsibilities of mentorship

The mentor must engage regularly with their trainees to supervise their tasks and ensure compliance. The mentor must also encourage regular collegiate meetings to discuss the progress of the assigned tasks and contribute to the scientific and methodological updating of trainees.

The mentor must ensure that working conditions for their trainees, whether employed or in an internship, are appropriate, and must provide adequate training in occupational health and safety, as well as in the relevant legal regulations.

At least one appraisal must be conducted each academic term, along with the completion of the corresponding report. At the end of the internship period, a report outlining the educational targets that have been met must be issued.

4.4 Duties of research personnel undergoing training

Trainees should take full advantage of the training opportunities offered by the Institute and its supervisors. Trainees, like any other individuals affiliated with IGTP, must commit to adhering to the handbook of best practices and should report any situations where they believe their rights have been violated, addressing the Ombudsperson if necessary.

5. Research protocols

Before starting any research, this must be formulated in writing as a protocol or research project and receive authorization from the relevant committees (CEIC, CEEA, etc.). The principal researcher is responsible for preparing the draft and coordinating the team.

5.1 Design and preparation of the research protocol

For any research protocol, a hypothesis must be formulated, and objectives must be clearly defined. These objectives must be clear, concise, measurable, and achievable, allowing for the formulated hypothesis to be validated or refuted, either partially or fully.

In order to achieve the objectives, it is essential to establish in advance the types of experiments to be conducted, the sample size (for statistical significance), and the statistical methodology for data analysis.

The research protocols must also specify the resources needed to conduct the project and the time required for its completion.

5.2 Research cannot be secret

Germans Trias i Pujol Research Institute will not tolerate the concealment or omission of any research, either fully or in part.

6. Research involving human subjects

If the research to be conducted involves human subjects, human samples or human data, researchers must comply with current legislation (see sections 1.2, 1.3 and 1.4 of Annex 1).

Protocols involving human subjects must specifically adhere to the ethical principles outlined in the Declaration of Helsinki to protect the rights, safety, and well-being of all participants (see section 1.5 of Annex 1).

All protocols involving human subjects must be reviewed and approved by the Clinical Research Ethics Committee (CEIC) (see section 1.6 of Annex 1). This committee ensures that the rights of patients, volunteers, and all individuals involved in a clinical research project are safeguarded. Mandatory reports must be submitted to this committee annually and upon completion of the study.

All participants in a clinical study, as well as those providing biological samples for biomedical research, must be fully informed of the risks and potential benefits beforehand and must give their voluntary consent to participate. This process, known as informed consent, must be administered to the potential participant in writing, using clear and comprehensible language. The medical or research personnel must also answer any questions the participant may have.

If the research involves a clinical trial for medicines or medical devices, or a post-authorization observational study for medicines or medical devices, it must be approved by a Research Ethics Committee with Medicines (CEIM) (see section 6.1, clinical trials with medicines).

6.1 Clinical trials for medicines and medical devices

Clinical trials for medicines and medical devices are experiments conducted on human subjects to determine whether a new drug, an existing drug for other indications, or a medical device is safe and effective for treating a specific disease or its symptoms.

Clinical trials for medicines and medical devices must comply with specific regulations (see section 1.7 of Annex 1) and be evaluated by the CEIM and the Spanish Agency for Medicines and Health Products (AEMPS) through the European platform CTIS (Clinical Trials Information System) (see section 1.8 of Annex 1).

Clinical trials must be conducted in accordance with the guidelines of good clinical practices (see Annex 1.9).

6.2 Biobanks

When human biological samples are incorporated into a biobank for biomedical research purposes, they are subject to specific regulations due to the unique public service role of biobanks. All collections of human samples for research purposes must be registered in the National Register of Biobanks for Biomedical

Research, as required by Royal Decree 1716/2011 and its amended annex, Order ECC/1404/2013 (see sections 1.10 and 1.11 of Annex 1).

IGTP-HUGTP's biobank has been authorized by the Department of Health of the Generalitat of Catalonia since April 15, 2013, and has been subsequently registered in the National Register of Biobanks of ISCIII (B.0000643), ensuring compliance with the requirements for traceability, quality, and safeguarding of data, processes, and samples; see SOP "**COLLECTION AND USE OF HUMAN BIOLOGICAL SAMPLES**" and further information at the biobank's website: <http://www.germanstrias.org/technology-services/biobank/index>

7. Research using animal models

When research involves the use of animal models, all research activities must comply with Directive 2010/63/EU of the European Parliament and European Council, as well as Royal Decree 1201/2005, on the protection of animals used for experimental and other scientific purposes, Royal Decree 53/2013 and ECC/566/2015 (see section 1.12 of Annex 1).

All research personnel must design their research in accordance with the 3Rs principles for the use of animal models and prepare the study following the PREPARE guidelines. [prepare_guidelines_catalan.pdf \(norecopa.no\)](#)

3R's

Replace

(use an alternative method to animal models, whenever possible)

Reduce

(use the absolute minimum number of animals required for statistical significance and take gender differences into account)

Refine

(use appropriate procedures causing minimal suffering to the animals)

The Institute includes the Centre for Comparative Medicine and Bioimaging of Catalonia (CMCiB), which has been registered as a site for experimentation with animal models in the Generalitat of Catalonia (code B9900005).

In order to initiate the research, the authorization code must first be obtained from the Experimentation Commission of the Generalitat of Catalonia. This is handled by the Animal Experimentation Ethics Committee (CEEA) of the CMCiB, which will have previously assessed and approved the project and related procedures. The CEEA evaluates aspects such as the lack of equivalent alternative methods, the suitability of the species and the number of animals used, the suitability of the methods for the procedure, and compliance with animal welfare criteria. The standard forms can be found in the CEEA section of the Intranet.

Studies involving animal models that pose a biological risk must also obtain authorization from the IGTP Biosafety Committee, taking into account the associated risks and preventive measures.

Research personnel working with animal models must have received training and be accredited as qualified users of animals for research purposes in accordance with current regulations. They must also maintain their accreditation through continued training.

Upon completion of the study, the annual and final mandatory reports must be submitted to the ethics committee.

8. Research involving genetically modified organisms

If the research involves the use of genetically modified organisms (GMOs), it must comply with the provisions of Royal Decree 178/2004 (see section 1.13 of Annex 1).

Before starting any new work involving GMOs, all IGTP research personnel must notify the Biological Safety Committee in writing via email so the risk can be assessed and the corresponding authorizations required by law can be processed.

Each year, the Lab Management Unit will submit a required response form if the research group has acquired, received, or generated a new GMO. This process ensures proper registration of the GMO and, if the GMO has not been previously authorized, initiates the relevant procedures with the competent authority, the Generalitat of Catalonia or the Ministry.

9. Recording, storage and custody of data and biological samples

Every research protocol must specify the procedure for data collection, data recording, and the handling of biological or chemical materials throughout the research, along with a plan for their custody and storage. All research projects involving the collection of biological samples must comply with the current regulations outlined above (see items 5, 6 and 7).

9.1 Recording of data

All observations and data collected during the research must be permanently recorded in databases and laboratory notebooks (see item 2.2). Records must also include changes, errors, and any unfavourable, unexpected or discrepant result, along with the name of the person who obtained those results. All members of the research team must have access to the generated data and its interpretation. It is essential to provide the necessary resources and infrastructure to ensure the proper custody and storage of documents and records. For data recorded in electronic format, a specific backup plan and their physical locations must be included.

All data must be kept for a minimum of five years from the date of publication, unless the law allows shorter periods or requires longer ones (for instance, data from clinical trials for medicines must be kept for a minimum of twenty-five years). This is to ensure data integrity and safeguarding, while preventing unauthorized modifications.

9.2 Ownership of data and samples

All primary data and biological samples generated during a research project are the property of Germans Trias i Pujol Research Institute (IGTP) given that the Principal Investigator (PI), who is the project leader and the person responsible for the data processing, is affiliated with our centre. The recording, storage, and custody of data are responsibilities of the project leader.

If the Principal Investigator (PI) changes institutions, the PI must leave all original records and biological sample collections at IGTP, ensuring that everything is properly identified and entrusted to the appropriate researcher or individual. In such cases, the new project leader may provide the former PI with photocopies of some or all of the records, copies of existing electronic data, photocopies of case report forms, or aliquots of the available biological or chemical material. For human biological samples (blood, serum, DNA, tissues, etc.), a material transfer agreement (MTA) must be signed.

9.3 Storage time for samples

The Principal Investigator is responsible for the management of project samples. All primary data and samples collected during the research must be securely kept for at least five years from the date of the first publication of the results, unless the law allows shorter periods or requires longer ones (e.g., a minimum of fifteen years in the case of clinical trials for medicines).

9.4 Personal data

All data from a research project involving human subjects must exclude any information that could directly identify the individuals. Data obtained must be labelled with a unique code for each participant to ensure their identity remains confidential. This safety measure, required by the Data Protection Regulation, is known as anonymization. In the case of data associated with samples, only the personnel at the medical facility or the head of the IGTP Biobank will have access to the personal data of participants linked to the unique codes.

If a publication requires the identification of individuals participating in the project, the results may only be published with prior consent from the subjects.

Individuals with access to personal data are committed to maintaining confidentiality regarding any personal information they may come across while conducting their work, contractual duties, or other responsibilities. Employees are prohibited from using any confidential information accessed during their employment for purposes beyond those specified in their contract, and disclosure of such information is strictly prohibited. This duty of confidentiality will remain in effect indefinitely.

IGTP personnel are only permitted to download non-anonymous medical data within the secure environment of IGTP's facilities. Downloading or transferring data that contains pseudo-anonymous identifiers to personal or home computers is not permitted. If data is downloaded for backup purposes, data must be stored directly on a system recognized as secure (e.g., locked, encrypted, etc.).

If the data needs to be sent outside of IGTP, medical data must be sent via email protected with a password, using a secure communication platform that enables encryption. Personal data must never be included in the subject line or body of the email.

Documents containing confidential information will be destroyed using a shredder or another secure destruction method.

All devices containing sensitive information and/or personal data from special categories that are no longer in use must be destroyed through a secure and certified data destruction system.

The Data Protection Coordinator may be contacted via email at: ibargallo@igtp.cat.

9.5 Data manipulation and fabrication

Data manipulation refers to the complete or partial alteration of data, the concealment of results, or the misrepresentation of data with the intent to deceive. Data fabrication is the invention of results, data and procedures that have not actually been conducted. IGTP does not permit these practices, which are considered very serious offenses.

9.6 Clean desk and screen policy

Protection at the workplace

Clean desk policy

If the authorized person is away from their workplace, all paper documents and any storage devices containing sensitive data must be cleared from desks and other areas (e.g., printers, fax machines, photocopiers, etc.) so as to prevent unauthorized access.

Clean screen policy

If the authorized person is away from their workplace, all sensitive information must be cleared from the screen, and access to all systems they have permission to use must be restricted.

In case of a short absence (up to 30 minutes), the clean screen policy is applied by logging out of all system sessions or locking the screen with a password. On a Windows system, pressing Windows_icon + L immediately activates the password-protected screen saver.

If an individual is absent for a longer period of time (more than 30 minutes), the clean screen policy is implemented by logging out of all systems and shutting down the computer.

Passwords

All employees must have a password to access:

1. Workspaces and platforms
 - e-mail
 - Microsoft 365 and SAP workspace
2. Devices
 - Screen Lock
 - Computer user

All personnel must appropriately use their personal password and must agree to use these IT resources responsibly and exclusively for professional purposes related to their job. All personnel are committed to not disclosing their access password and will inform the Institute immediately in the event of loss or suspicion of unauthorized access or use.

Passwords will be modified at least every 180 days.

Protection of shared facilities and equipment

from printers, fax and photocopiers. All documents containing sensitive information must be immediately removed

9.7 Mobile computer equipment

Introduction

Mobile computing equipment includes all types of laptops, mobile phones, smartphones, memory cards, and other portable devices used for data storage, processing, and transfer.

The aforementioned equipment may be removed from IGTP's facilities only with the authorization from the head of the corresponding unit or group.

Basic rules

Special care must be taken when mobile computer equipment is used in vehicles (including cars), public spaces, hotel rooms, meeting points, conference venues, and other unrestricted areas outside the Institute's facilities.

Anyone taking mobile computer equipment outside the facilities must adhere to the following rules:

- Mobile computer equipment containing confidential, sensitive, or critical information must not be left unattended. If possible, it should be physically locked to prevent unauthorized access.
- When using mobile computer equipment in public places, users must ensure that unauthorized individuals cannot read the data.
- Anyone using mobile computer equipment outside the facilities must regularly back up their data.
- Sensitive information on laptops and USB drives must be protected with a password or encryption.
- Local copies of files containing personal data should not be stored on portable devices, regardless of whether these are personal or from the REDMO.

Remote working

Work conducted outside the Institute's facilities must be authorized in accordance with the Institution's remote working guidelines.

The employee is responsible for the following:

- Protecting mobile computer equipment as outlined in the previous section.
- Preventing unauthorized access by individuals who live or work in the remote work location.
- Ensuring the appropriate configuration of the local network used to connect to the Internet.
- Protection of the institute's intellectual property rights, including software and any other materials that can be protected by intellectual property rights.
- In the event of contract termination, all data and equipment must be returned and removed.

Use of one's own personal device

This policy applies to all personal devices, regardless of whether they are used for work or private purposes, and whether they are used inside or outside the Institute's facilities.

Organizational Policy

IGTP supports the use of personal devices to perform work for the Institute.

Data belonging to the Institute that has been stored, transferred, or processed on a personal device remains the property of the Institute, which reserves the right to control this data, even if it does not own the device.

10. Publication, safeguarding and dissemination of research

Reporting research results facilitates the dissemination of knowledge and promotes scientific progress. Therefore, researchers must present their findings publicly, so the scientific community can evaluate and accept this new knowledge.

10.1 Publishing in peer-reviewed journals

Research results must be reported or published in peer-reviewed journals or presented at scientific conferences and meetings. This is an unavoidable part of any research project.

10.2 Unpublished results

Deliberately withholding or excessively delaying the publication of research results may be considered a misappropriation of resources. Reporting the results of studies involving IGTP personnel is an ethical imperative.

10.3 Unfavourable results

Unfavourable results or those that differ from previous expectations must be published, particularly in clinical and epidemiological studies.

10.4 Incomplete, repeated or plagiarized publication

The fragmented publication of a study is not acceptable.

The repeated publication of a manuscript or any part of a previously published manuscript is absolutely unacceptable. If a research study requires incorporating content from a previous publication, the new manuscript must clearly state this and the editors of the original publication must be notified, as established by the guidelines of the International Committee of Medical Journal Editors (see reference 2 of Annex 3).

Plagiarism, including the use of ideas, data, or results from other sources without consent or proper acknowledgment, is considered poor scientific practice and is strictly prohibited.

10.5. Use of artificial intelligence (AI) for drafting scientific articles

The emergence of artificial intelligence (AI) presents new challenges to our research system regarding transparency, integrity, and the comprehensive dissemination of information and results.

The use of AI is permitted for translation, linguistic revision, and writing, provided that there is subsequent human supervision. On the other hand, AI must not be used to generate fake or low-quality articles, or to manipulate metrics.

If AI has been used, this must be acknowledged in the article.

10.6 References

All work directly related to the research must be included or cited in publications, patent specifications, and utility model applications. References to works must be justified and deserving of recognition, while honorary references should be avoided.

10.7 Acknowledgments

The acknowledgements section of a publication must be strictly limited to recognizing those that have made a contribution. Individuals, research groups, services, or institutions have the right to decline being acknowledged in this section. The same principle applies to mentions labelled as "personal communication".

When using the services of IGTP scientific and technical platforms, the self-acknowledgement [guidelines outlined on the IGTP Intranet](#) must be followed.

10.8 Essential information

All publications and communications must specifically include the following information:

- The institutions or centre with which the authors of the research are currently affiliated, or have previously been affiliated, as well as the locations where the research was conducted, must be appropriately referenced (see the affiliations handbook of IGTP).
- Any affiliation with the University, if applicable.
- The ethical committees that reviewed and approved the research protocols.
- Details of the grants, sponsorships, or funding received, whether directly or indirectly, for the project
- The declaration of conflict of interest, which must be signed by all authors of the publication, may be financial or personal, and must be promptly reported to their immediate supervisor for acknowledgment and review.

10.9 Presentation of results to the media

The results of a research project cannot be presented to the public through mass media without first being accepted for publication in peer-reviewed scientific journals or presented at expert conferences.

The dissemination of results through the media must be adapted, at least in part, for a non-expert audience. In these cases, the authors' names must be linked to their respective institutions, and whenever possible, the sources of funding for the project should also be included.

The premature dissemination of results through the media is justifiable only for public health reasons, and the authors must ensure that the results are simultaneously and urgently reviewed by a scientific editorial team.

Any public disclosure must be based on the results of the research, and must be approached with caution to avoid creating false expectations, as recommended by the Code of Medical Ethics of the College of Physicians of Barcelona (see reference 3 of Annex 3). Inaccurate communication of results can have serious consequences for both the researcher and the institution.

10.10 Open Science

Researchers will strive to adhere to the principles of open access to scientific research (Open Science), which includes publications, data, and methodologies, among others. This ensures that these resources are accessible to professionals and individuals outside the scientific community. This commitment will be particularly important for scientific knowledge generated through public funding.

11. Authorship of research

Any scientific publication must include its authors, who must confirm in writing the final version of the original manuscript that is submitted for registration or publication.

11.1 Requirements for authorship

To be considered an author, the following criteria must be met:

- Having made significant contributions to the creative process, including the inception of the project, design of experiments, and/or the generation, analysis, and interpretation of data.
- Having contributed to the preparation of the resulting publication or patent.
- Being able to clearly detail their personal contributions to the work and discuss the main aspects of the research as a whole.
- If an author is unable to take responsibility for the entire content, their specific contributions to the project or publication will be listed separately.

11.2 Procurement of resources and data collection

Merely contributing by obtaining resources (such as samples or subjects for experimentation) or collecting data does not automatically grant authorship of a study; however, such contributions should be acknowledged in the acknowledgments section.

11.3 Honorary or omitted authorship

Anyone who, due to their hierarchical position or social status, requests to be included as an author of a work without meeting any of the criteria outlined in section 11.1 is infringing on academic freedom and is committing an act of injustice, which could even be regarded an abuse of authority.

On the other hand, omitting the name of any individual who has contributed to the execution of the work constitutes improper appropriation of intellectual property by the other authors of the publication.

11.4 Order of authorship

Generally, the authorship order must be as follows:

- The first author is the individual who has made the most significant effort and contribution to the research.
- The research director, who is responsible for overseeing the research and the final manuscript, is listed as the last author.
- The remaining authors are listed based on their importance and contribution, or in some cases, in alphabetical order.

The corresponding author is responsible for overseeing the entire editorial process and handling subsequent communications and interactions related to the publication.

When two or more authors have contributed equally to the project and the primary drafting of the manuscript, they may share first authorship and will both be recognized as first authors.

This consideration also applies to the last author listed in the signatures.

Guidelines for publication signatures can be found in Annex 2.

11.5 Authorship conflicts

Authorship conflicts will be referred to the ombudsperson, the research commission, and/or the ethics or scientific integrity committees of IGTP, which have been created where applicable. These bodies will provide information and make relevant recommendations to the body responsible for resolving the conflict.

12. Custody of property

If the results of a research lead to inventions or applications with potential commercial interest, the project leader must report this to the Institute's Management team to ensure appropriate protection.

In collaborative projects where IGTP is not the sponsor, a mutual agreement must be reached that outlines all intellectual and/or technological contributions from the Institute's researchers, as well as the conditions for communicating and publishing the results.

13. Health and safety, protection of the environment and waste management

The Institute's personnel must receive training on the proper handling and disposal of waste generated during research activities. They should ensure their own safety, the safety of others, and the protection of the environment by placing waste in the appropriate labelled containers, in accordance with relevant health and safety regulations. For more information on specific regulations regarding the handling and disposal of waste generated during research activities, please refer to section 1.14 of Annex 1). Specific training for waste management is conducted annually by the Lab Managing Unit to ensure compliance.

All personnel have the right to receive information and effective protection regarding health and safety in the workplace.

Additionally, all personnel must be familiar with the centres's health and safety guidelines and must appropriately use the resources, facilities, and services provided by IGTP.

14. Misconduct in research

The primary mission of research institutes is to conduct high-quality research while rigorously adhering to the principles of scientific ethics. Therefore, research institutes refuse to conduct any research that does not follow these principles.

According to its most widely accepted definition, misconduct refers to the fabrication, manipulation, and plagiarism of data, as well as other actions that deviate from practices commonly accepted by the scientific community in the notification, generation, or presentation of research results. Errors or inaccuracies made in good faith are not included in the interpretation and judgment of data. This type of misconduct could be considered a crime and may be subject to criminal sanctions.

To prevent instances of scientific misconduct, it is essential to promote awareness of scientific ethics, ensure ongoing monitoring of research activities, avoid excessive pressure to produce results, and encourage the sharing of information among research groups. The Institute must implement the guidelines of best research practices and best laboratory practices outlined in this document, with particular emphasis on primary data collection systems to ensure that data cannot be altered. These rules not only minimize the risk of unintentional errors but also significantly enhance the ability to detect instances of scientific misconduct.

The Scientific Management team at the research centre is responsible for receiving and investigating allegations of scientific misconduct submitted by fully identified individuals or groups, either directly or through the research mediator.

The ombudsperson will decide the course of action in cases of misconduct and will create an external committee to evaluate the case and implement appropriate measures.

Anyone wishing to report a case to the ombudsperson must submit it via email to: ombudsperson@igtp.cat. You will be notified upon receipt of the email, and the official process will then be initiated.

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15. Revision and update

The document outlining the code of good practices has been prepared by the Laboratory Management Unit, the People Management Unit, the Scientific Management Team, and the Communication and Internal Scientific Committee, amongst others.

This code is mandatory for all personnel and will be reviewed annually, after which it will be approved by the Internal Scientific Committee.

ANNEX 1**LEGISLATION AND REGULATIONS FOR SCIENTIFIC PRACTICE****1.1**

Royal Decree 1369/2000, of 19 July, amending Royal Decree 822/1993, of May 28, which establishes the principles of Good Laboratory Practices and its application in non-clinical studies with chemical substances and products. <https://www.boe.es/boe/dias/2000/07/20/pdfs/A25832-25838.pdf>

1.2

Act 14/2007 of 3rd July on Biomedical Research.

<https://www.boe.es/boe/dias/2007/07/04/pdfs/A28826-28848.pdf>

1.3

Organic Law 3/2018, of 5 December, on the Protection of Personal Data and the Guarantee of Digital Rights.

<https://boe.es/boe/dias/2018/12/06/pdfs/BOE-A-2018-16673.pdf>

1.4

Act 41/2002, of 14 November, on the Autonomy of the Patient and the Rights and Obligations with Regard to Clinical Information and Documentation.

<http://www.boe.es/boe/dias/2002/11/15/pdfs/A40126-40132.pdf>

1.5

World Medical Association – Declaration of Helsinki: ethical principles for medical research involving human subjects (Fortaleza, 2013).

<https://www.wma.net/es/polices-post/declaracion-de-helsinki-de-la-amm-principios-eticos-para-las-investigaciones-medicas-en-seres-humanos>

1.6

Decree 406/2006, of 24 October, regulating the requirements and accreditation procedures for Research Ethics Committees

DECREEE 406/2006, of 24 October, regulating the requirements and accreditation procedures for Research Ethics Committees (gencat.cat)

1.7

Royal Decree 1090/2015, of 4 December, which regulates clinical trials with medicines, the Research Ethics Committees with medications and the Spanish Registry Of Clinical Trials.

<https://www.boe.es/buscar/pdf/2015/BOE-A-2015-14082-consolidado.pdf>

1.8

Clinical trials with medicines for human use. Spanish Agency for Medicines and Medical Devices (https://www.aemps.gob.es/medicamentos-de-uso-humano/investigacion_medicamentos/ensayosclinicos/)

1.9

ICH E6 (R2). Good clinical practice

<https://www.ema.europa.eu/en/ich-e6-r2-good-clinical-practice>

1.10

Royal Decree 1716/2011, of 18 November, establishing the basic requirements of authorization and functioning of biobanks for biomedical research and the management of human biological samples, and regulating the functioning and organization of the National Registry of Biobanks for biomedical research. <https://www.boe.es/boe/dias/2011/12/02/pdfs/BOE-A-2011-18919.pdf>

1.11

Order ECC/1404/2013, of 28 June, amending the annex to Royal Decree 1716/2011, of 18 November.

<https://www.boe.es/boe/dias/2013/07/25/pdfs/BOE-A-2013-8085.pdf>

1.12

Legislation for research using animal models:

DECREE 214/1997, of 30 July, regulating the use of animals in experiments and for other scientific purposes (gencat.cat)

DIRECTIVE 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes, Text with EEA relevance (boe.es)

BOE-A-2005-17344 Royal Decree 1201/2005, of 10th October, on the protection of animals used for experimental and other scientific purposes

Royal Decree 53/2013, of 1 February, which sets out the basic rules to protect animals used in experiments and for other scientific purposes, including teaching.

<https://www.boe.es/boe/dias/2013/02/08/pdfs/BOE-A-2013-1337.pdf>

BOE-A-2015-3564 Order ECC/566/2015, of 20 March, establishing the qualifications required of personnel who handle animals used, bred or supplied for experiments or for other scientific purposes, including teaching.

1.13

Royal Decree 178/2004, of 30 January, which approves the general Regulation for the development and execution of Law 9/2003, of 25 April, establishing the legal regime for the contained use, voluntary release and commercialization of genetically modified organisms.

<https://www.boe.es/boe/dias/2004/01/31/pdfs/A04171-04216.pdf>

1.14

INSST's technical guides, Department of Employment and Social Economy
Spanish Institute of Occupational Safety and Health - INSST - Occupational health and safety

ANNEX 2

GUIDELINES FOR SIGNATURES IN PUBLICATIONS

General indications

Generally, all scientific works involving IGTP researchers, regardless of their contractual relationship, must be signed with the acronym “IGTP.”

To ensure maximum consistency, the acronym should always be in uppercase. Adhering to these two guidelines will enhance the efficiency of automatic searches.

Naturally, researchers who are affiliated with other institutions must record this by including the corresponding official affiliation. This ensures that all of the researcher's affiliations can coexist in the signature.

See [Guide to correct use of affiliations at the IGTP](#), available on the IGTP intranet.

- **Catalan:** Germans Trias i Pujol Research Institute (IGTP)
- **Spanish:** Germans Trias i Pujol Research Institute (IGTP)
- **English:** Germans Trias i Pujol Research Institute (IGTP)

Scope

The guidelines outlined in this document apply to all scientific works conducted by IGTP research personnel. Scientific work includes the following types of publications:

- Original article published in an indexed journal
- Review article published in an indexed journal
- Letter published in an indexed journal
- Editorial published in an indexed journal
- Presentation at a congress
- Book chapter
- Outreach articles published in any media platform
- Opinion articles published in any media platform
- Other scientific communications.

**ANNEX 3
REFERENCES**

- Guidelines of good research practices in life sciences by ICS, 2015.
https://scientiasalut.gencat.cat/bitstream/handle/11351/6623/guia_bona_practica_recerca_ciencias_salut_ICS_2015.pdf?sequence=1&isAllowed=y
- Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication, International Committee of Medical Journal Editors.
https://www.icmje.org/recommendations/archives/2006_urm.pdf
- Code of Medical Ethics of the Barcelona Medical Association. Catalan Medical Association Council. https://www.comb.cat/cat/collegi/docs/codi_deontologic.pdf
- Code of Good Practices of Carlos III Health Institute.
https://www.isciii.es/QueHacemos/Servicios/ComitesEtica/CEI/Documents/2019-CODIGO%20DE%20BUENAS%20PRACTICAS%20CIENTIFICAS_%20SGITCMR-04,%20Ed%2004.pdf
- European Code of Conduct for Integrity in Research (ALLEA): https://www.allea.org/wp-content/uploads/2018/01/SP_ALLEA_Codigo_Europeo_de_Conducta_para_la_Integridad_en_la_Investigacion.pdf
- Code of Good Scientific Practices of Barcelona Biomedical Research Park.
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- Code of Good Scientific Practices of the Centre for Political and Constitutional Studies.
<https://www.cepc.gob.es/sites/default/files/2022-06/a-936-guia-de-buenas-practicas-cientificas- interactivo-final.pdf>