



# İZMİR INSTITUTE OF TECHNOLOGY

## CODE OF GOOD RESEARCH PRACTICE

### IZTECH's Vision and Mission of Research

IZTECH aims to achieve excellence in research and teaching for planetary welfare. Our goal is to generate new knowledge through transparent, ethical research done by highly motivated and creative researchers in collaboration.

IZTECH is committed to conducting exceptional research while upholding the highest standards of research integrity, governance, and ethical practices (IZTECH Ethical Principles and Ethics Board Directive). Our goal is to create a welcoming research environment that encourages accessibility, collaboration, and the replication of our research findings. We strongly value and actively promote diversity and internationalization in our research and education endeavors.

As outlined in this Code of Good Research Practice, IZTECH promotes and aims to foster good research practices. Our dedication to research integrity is an indispensable aspect of our research vision, strategy, operational plans, resource allocation, and performance evaluation.

The Frascati definition of research (Frascati Manual) is based on both creative and systematic efforts to advance knowledge. This includes gaining insights into humanity, culture, and society and identifying new applications for existing knowledge. Research and experimental development (R&D) encompass three key activities: basic research, applied research, and experimental development.

Basic research focuses on experimental or theoretical work primarily to acquire fresh insights into the fundamental principles underlying phenomena and observable facts without a specific application in mind. Applied research is an original inquiry conducted to acquire fresh knowledge, primarily to achieve specific practical goals or objectives.

Experimental development involves methodical work that draws upon existing knowledge from research or practical experience to generate new materials, products, or devices; implement novel processes, systems, and services, or significantly improve existing ones. R&D covers formal activities conducted in dedicated R&D units and informal or occasional R&D in other units.

Thus, IZTECH is dedicated to:

- i) Empower researchers to adhere to the norms, beliefs, and behaviors expected of them and to maintain a research environment that promotes ethical research practices and cultivates a culture of research integrity.
- ii) Provide researchers with education, training, and mentorship opportunities to develop their skills throughout their careers, along with research ethics and integrity training.
- iii) To ensure that research, regardless of its nature (digital, physical, human, animal, or environmental), is sustainable.



- iv) Evaluate research practices and cultures on a regular basis to make sure they are still appropriate.

### **Objectives of The Code of Good Research Practice**

This Code of Good Research Practice outlines the expected conduct standards for all individuals affiliated with IZTECH, including staff, students, and others (such as visiting researchers, emeritus staff, and associates). These guidelines also apply to individuals involved in or supporting research activities for IZTECH.

Activities that necessitate ethical or similar approval are also expected to adhere to the guidelines outlined in this Code. Likewise, any other activities must comply with applicable legal, regulatory, and professional or subject-specific best practice requirements.

The code requires researchers to:

- a. Be honest, professional, sincere, rigorous, transparent, and open in communication.
- b. Demonstrate fairness and respect for equity.
- c. Avoid actual or potential conflicts of interest or declare and manage them appropriately.
- d. Demonstrate care and respect for all involved in research as a participant, subject, user, or beneficiary (e.g. humans, animals, the environment, cultural objects)
- e. Respect all legal, administrative, and ethical guidelines of IZTECH or other pertinent statutory organizations.

Subject to proper confidentiality for personally identifiable or commercially sensitive information, research methods, findings, outputs, and data should be accessible for review, discussion, sharing, additional analysis, and repurposing. (IZTECH Open Access Policy) IZTECH expects research-related data to be properly maintained and managed for timely and appropriate exchange.

It is important for researchers to comprehend and adhere to this code. Other pertinent university regulations, such as those regarding equity, diversity and inclusion, harassment and bullying, and health and safety, should also be known to and followed by researchers. Any violation of this Code or of related regulations that pertain to research shall be looked under the University's Procedure for the Investigation of Allegations of Misconduct in Research (IZTECH Scientific Research and Publication Ethics Directive) or the Academic Offenses Procedures for students (IZTECH Guide to Student Disciplinary Investigation).



## Responsibilities of the Parties Involved in Research

### IZTECH's Administrative Organs and Their Roles:

- i) The Senate sets the University's academic policy and oversees academic operations. It encourages innovation and best practices in learning, teaching, research, and evaluation.
- ii) The Research Directorate develops and invigorates research and knowledge exchange activities at the University, encouraging cultures and activities that are consistent with the University's mission. It acts to promote and exchange good practices in relation to the development of researchers.
- iii) The Research Directorate oversees and establishes policies for all aspects of research governance and integrity, including risk management. The Research Ethics Committee manages misconduct and promotes good practices. It submits reports to the Rector.
- iv) All research projects and activities involving human subjects, tissues, or data, and those involving animals, must be reviewed, and approved by the Ethics Committee. The committee has policymaking and oversight responsibilities and is in charge of endorsing any initiatives that need outside ethical clearance. (IZTECH Ethical Principles and Ethics Board Directive)

### Of Individuals involved in Research:

- i) Every research project, including ones that are internally funded, must have a designated person who is accountable to IZTECH for the project. Usually, this is the project's principal investigator or the primary supervisor of a student doing research, who is a member of IZTECH.
- ii) It is the duty of every researcher, including students enrolled in research programs or projects, to conduct research in accordance with this Code and uphold transparency and professionalism.
- iii) Academic administrators such as deans, department heads, and other relevant personnel are responsible for ensuring that their staff and student researchers adhere to the highest standards of research integrity, ethics, and governance in accordance with the Code and cultivate a culture of transparency and professional integrity in research practice. Departments and faculties should mention the Code in their orientation procedures for employees and students. Academic administrators should be proactive for their researchers to get proper oversight, direction, and instruction regarding the Code and provide mentoring.
- iv) Principal investigators and other individuals in designated leadership or management roles must also promote transparency and professional integrity in research practice. This involves communicating effectively about the procedures that are in place to enable individuals to bring up concerns, particularly those related to research misconduct or bullying and harassment. Principal investigators should take proactive measures for early career



researchers<sup>1</sup> to get proper management, direction, and training. (See Code on Good Supervision)

- v) Supervisors of research students are obligated to ensure their students adhere to the Code. It is especially the duty of student supervisors to make sure that their supervisees have the proper assistance in filing ethics review applications and that they receive advice on the ethical principles that guide research. Supervisors are responsible for making sure that their students get ongoing assistance (including training) to conduct research in accordance with the Code. They also must point students toward any further assistance or training that could be needed.
- vi) It is important for researchers to be proactive and receive the proper training regarding fundamental research skills, research integrity and ethics. Researchers should understand and follow the rules included in the Code.

### **Practical Guidelines Regarding the Code of Good Research Practice**

Adherence to this Code is mandatory for researchers undertaking research under IZTECH's sponsorship. This encompasses researchers, teams, or projects that are affiliated with IZTECH and are beneficiaries of the institution's sponsorship for conducting specific research endeavors. The sponsorship may involve financial support, access to facilities, collaboration opportunities, or other resources that facilitate and support the research activities of these affiliated individuals or groups. Researchers who violate the Code may be subject to disciplinary action under Article 54 of the Law No. 2547 Code by The Council of Higher Education (CoHE), and IZTECH Scientific Research and Publication Ethics Directive, as applicable. The following are exceptions:

- i) The Procedure will be utilized to conduct the investigation in cases when a student is a member of a larger team that is facing accusations of research misconduct, and the student will be subject to sanctions or penalties that are consistent with and carried out under the Academic Offenses Procedures (required disciplinary action and committees described here).
- ii) A student who is also a staff member pursuing a Ph.D. or master's degree in the course of their academic work or as a requirement of their job will be regarded as staff, and the Procedure and all its components will be applicable in such a situation.

### **Research Integrity**

It is critical that IZTECH uphold and cultivate a culture of honesty and integrity in research.

The fundamentals of doing research, individually or in groups, include:

Transparency; preserving rigor in accordance with recognized discipline norms and standards; recording procedures and results in documentation; challenging one's own conclusions; truthfully recognizing and acknowledging the contributions of others; adhering to the strictest ethical guidelines

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<sup>1</sup> An "early career researcher" typically refers to an individual who is in the early stages of their research career, often within the first few years after completing their highest academic degree (such as a Ph.D. or equivalent).



for research methodology; giving early career researchers' needs particular consideration; efficiently obtaining, using, managing, archiving, and keeping data for study while adhering to pertinent guidelines and rules; disseminating research findings and data in a way that complies with the university's policies and complying with applicable professional codes of practice, legal and regulatory requirements, and university policies other than the Code.

In addition to having the freedom to make their own academic judgments, researchers must also take accountability for their choices. Therefore, the individual's primary obligation is to ensure that they operate in line with these principles in all facets of their research activity, including peer review.

### **Legal, Regulatory and Ethical Frameworks**

All research conducted at, for or under IZTECH's auspices must adhere to all applicable legal, regulatory, ethical, and professional frameworks. This Code is assumed to include any unique requirements for job performance and ethical behavior that the university or the law may impose regarding certain types of research.

It is the duty of researchers to maintain constant awareness of and adherence to applicable laws, both domestic and foreign as applicable, as well as the standards of research ethics established by funding agencies, scientific and professional associations, and other pertinent parties.

In addition to obtaining internal process permissions before beginning research, researchers must adhere to any applicable local laws, codes of conduct, and standard operating procedures.

### **Research with Human Participants and Animals**

Prior to the start of the project, the IZTECH Ethics Committee's permission must be requested and received. If the project involves an outside organization, a similar standard of ethical behavior for ethical clearance should be observed. Local rules of research must be followed when employing healthy volunteers as subjects in studies that need medically certified supervision to guarantee participant safety.

Researchers must receive the IZTECH Ethics Committee's approval for any study using human participants and/or animals to be conducted.

### **Operating Standards or External Quality**

When research is undertaken at another organization's facilities by an IZTECH researcher, external standards may be especially relevant in collaborative work situations. Under such conditions, researchers should adhere to those local or regulatory requirements.



## **Research Leadership**

The direction of research and the provision of researcher supervision, including training, are the responsibilities of department heads, directors of research, principal investigators, and group leaders.

Good research cannot be facilitated unless an atmosphere of fairness and respect is established for everybody. The convener or group leader within a research group, if one exists, is accountable for fostering such an environment within the Department, Faculty, and IZTECH.<sup>2</sup> Group leaders oversee establishing and upholding a secure, transparent, and cooperative work environment. This includes being transparent about the procedures in place that allow members to bring up concerns, particularly those pertaining to harassment and bullying in the workplace and research misconduct.

Anyone with supervision responsibilities for researchers, including heads of departments, directors of research, and principal investigators, should take proactive measures to guarantee that early career researchers and graduate students receive proper management, guidance, and training to ensure compliance with the Code.

## **Data Management**

All information gathered during a study activity is considered research data. This comprises unprocessed data, data that has been examined, and data that emerges during the investigation and is subsequently converted into another format or deleted, such as audio and video recordings. Data can be in many different formats, such as electronic and paper records, recordings, or research-related outputs.

Research data management encompasses all facets of data administration that are related to research, from creating a plan for data management at the project's beginning to archiving and making research data available when needed. Neglecting research data management can lead to major research misconduct, such as confidentiality violations or reported data inaccuracies, therefore IZTECH sees data management as an indispensable aspect of good research practice.

Regardless of whether the research is financed or not, all data from studies with publishing potential are covered by the IZTECH Research Data Management Policy. It is imperative that researchers are cognizant of and adhere to the Information Security Policy. Registration is required for research using material that is sensitive to security, as specified in the applicable guidelines.

The Research Directorate is in charge of signing data-sharing agreements, legally binding contracts, or guarantees about the handling of data on behalf of IZTECH. Researchers should consult The Research Directorate for advice on the best course of action.

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<sup>2</sup> The Code sees all levels of relevant administrative unit as research bodies or groups, meaning departments, faculties or university as a whole.



## **Research Results and Publications**

Research and research findings must be accurately and ethically reported in all publications and research outputs.

A publication that shares significant similarities with another publication that was produced using the same data or study must properly cite the other publication.

A researcher shall not simultaneously submit identical material to multiple publishers.

IZTECH encourages researchers to share their publications and research outputs with the public and other researchers in accordance with IZTECH's policies (IZTECH Open Access Policy).

Access to a research thesis may be restricted in certain circumstances. (Directive on The Collection, Editing and Open Access of Graduate Theses in Electronic Environment)

## **Authorship**

All participants who have made a substantial contribution to the pertinent study must be acknowledged in publications (and, to the extent realistically feasible, in any other type of research output).

The ability to be included as an author of an output resulting from relevant research should be extended to anybody who has contributed significantly to the conception, carrying out, or interpretation of at least some of the study. The authors' names should be arranged according to discipline guidelines and their individual contributions to the work, not according to their organizational standing.

An output created from relevant research should not list any individual who did not contribute significantly to its conception, execution, or interpretation as an author, but they may be duly recognized.

Aside from fulfilling the aforementioned criteria, an author also has to make sure that the efforts of research personnel, research students, and technical and support staff are acknowledged in a publication that is the result of research to which they have contributed significantly. The authors are also responsible for making sure that the research's funders are properly recognized.

## **Recognizing and Handling Conflicts of Interest**

Situations where money or other personal motivations may undermine professional judgment and integrity, or appear to undermine them, are referred to as conflicts of interest. These might have to do with money, gains for oneself or one's family, interpersonal connections, organizational and professional duties, career advancement, or business agreements. Conflicts of interest also concern how time and resources are used; they might arise when a researcher's participation and productivity are harmed by personal interests or extracurricular activities. Undertaking research or exchanging knowledge, especially with third parties, may result in conflicts of interest or apparent conflicts of interests.



On such occasions researchers are expected to act with integrity. It is mandatory for all researchers to identify and reveal any actions that may lead to conflicts of this nature and to make sure that these conflicts are perceived as appropriately controlled or prevented.

Disclosure of a conflict or prospective conflict pertaining to research or knowledge-sharing should be made as soon as the conflict is identified. First and foremost, the researcher's supervisor or equivalent should be informed, and a resolution on the handling of the issue should be worked out. If appropriate action is not taken, the matter should be handled according to the appeals and complaints mechanisms and procedures of IZTECH.

### **Purchasing and Spending**

Funds must be used in accordance with the rules determined by the Research Directorate and recorded in the IZTECH Financial Regulations and in accordance with the grants or contracts made for the study.

### **Funding Applications**

Principal Investigators are responsible for making sure that funding applications are accurate. It is not within the jurisdiction of researchers to execute contracts or make legally binding agreements on behalf of IZTECH. Before submitting a funding application, principal investigators must make sure they are aware of all the terms of the research funding, including their reporting duties and other requirements.

When submitting work that is significantly identical to several funders, a researcher should let the funder know about this at the time of submission. When deciding whether to request for or accept money for research from certain sources, legal and ethical concerns may occasionally come up. Agreements for collaboration with a company or a person may need similar thinking. When applying for and receiving outside money or working with other organizations, the interests of every employee as well as the interests and standing of the university must be protected. If more guidance is needed, it should be obtained.

### **Research Student Funding**

Supervisors and principal investigators should make sure that there is no conflict of interest between the funder and the student's capacity to finish their thesis.

### **Intellectual Property Rights**

Academics ought to be conscious of any intellectual property (IP) that may have economic value that results from their work and take the necessary precautions to safeguard it. (IZTECH aims to support the growth and use of its intellectual property for the good of the institute, its employees, and the





community at large, by using any legal measures possible. IZTECH Intellectual Property Policy and IZTECH Intellectual Property Commercialization Policy, which contain information on rights to any IP and any cash earned from their work, should be known to researchers, including students and their supervisors.

### **Interaction with External Bodies Including Commercial Organizations**

Engaging with other organizations and people, both commercial and noncommercial, is usually necessary to translate research findings into positive effects. In addition to considering their own interests and the reputation of IZTECH, researchers should be aware of the characteristics and goals of those third parties.

Every contractual and business deal is negotiated by IZTECH according to its requirements and merits. As a result, it features a number of important components pertaining to research agreements that serve as a starting point for these discussions rather than a rigid stance. To support this role, researchers should collaborate with the Research Directorate. The principal elements of a desired contract are:

- i) The possibility of publishing work results with minimal time constraints (regarding notice periods and the total amount of time spent) to allow for results protection or for the funder to release the official report first.
- ii) The capacity to carry out more study in the field while collaborating with other pertinent organizations.
- iii) Mutual secrecy of the information with a time restriction.
- iv) There is no guarantee about the work's outcomes or applications.

Use of University background intellectual property is extra and contingent upon conditions and negotiations in both situations. It is acknowledged that different economic sectors will inevitably have different ways to manage intellectual property, and that the type of intellectual property will depend on factors including financing level and effect potential.

### **Regarding Allegations or Complaints of Wrongdoing**

Any violation of IZTECH's Code of Good Research Practice or any actions that materially depart from the norms widely acknowledged in the academic and research communities for the proposal, execution, reporting, translation, or application of research constitute research misconduct. It includes, but is not limited to:

- i) Fabrication, which includes the fabrication of data or other components of the study
- ii) Falsification, which includes improper data, and/or consent modification and/or selection.
- iii) Data misrepresentation, as well as the concealment of affiliations, interests, engagement, credentials, experience, and publishing history.



- iv) Plagiarism, which is the widespread misuse or use, without acknowledgment or permission, of another person's ideas, intellectual property, or work (written or otherwise).
- v) Ignoring legal, regulatory, or professional requirements or procedures.
- vi) Not notifying the supervisor or related parties of any actual or prospective conflicts of interest as needed.
- vii) Disregarding established protocols or failing to take reasonable precautions when performing duties to prevent unjustified risk or injury to people, research animals, or the environment.
- viii) Any violation of data protection laws, as well as any infraction of established protocols or carelessness in discharging duties related to the appropriate management of confidential or privileged data about people or organizations gathered throughout the study.
- ix) Improper behavior during the peer review (or comparable) process for publications, research proposals, findings, or other procedures.
- x) Willful destruction or removal of another person's property connected to study.
- xi) Handling Code violations improperly.
- xii) Willful disregard for: the conditions under which external funding for research is awarded; the policies and procedures of the university concerning research, such as those pertaining to ethics, accounting, and health and safety; or any other legal or moral requirements for the conduct of research.

Inadvertent mistakes or discrepancies in expert opinion about the interpretation or assessment of data are not considered misconduct in research.

When they have reasonable suspicions on misconduct of research, staff members and students have an obligation to report it. IZTECH will evaluate and respond to claims or grievances regarding research misconduct or academic or scientific fraud.

Complaints with proven malicious behavior are punishable by disciplinary action.

Researchers must start the Procedure for the Investigation of Allegations of Misconduct in Research if they want to submit their work to an official internal examination procedure (if published work is retracted or similar).