

RESEARCH INTEGRITY ANNUAL REPORT 2020-21

INTRODUCTION

1. The College is a signatory to the UK Concordat to support research integrity and is committed to maintaining the highest standards of rigour and integrity in all aspects of research, and to meeting its obligations under the Concordat. These commitments include the annual presentation of a high-level statement on research integrity to the Council. As well as providing an update on the actions taken to support research integrity in the last year, the report also provides information on investigations of research misconduct. A copy of the annual report is then published on the College's Research Integrity webpages.

THE CONCORDAT TO SUPPORT RESEARCH INTEGRITY

2. The UK Concordat to Support Research Integrity, which was revised and updated in 2019, sets out the expectations for institutions and researchers. In addition to *"maintaining the highest standards of rigour and integrity in all aspects of research"*, and *"ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards"*. Research institutions are also expected to commit 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*
- *using transparent, timely, robust and fair processes to deal with allegations of research misconduct should they arise*
- *working together to strengthen the integrity of research and to review progress regularly and openly.*

3. The College framework for supporting research and investigating allegations of research misconduct is set out in Appendix B.

SUPPORT FOR RESEARCH INTEGRITY

4. Although the College already provides a variety of training opportunities and guidance to its researchers, to meet the Concordat's enhanced training requirements for researchers, a new Research Integrity & Ethics at Imperial College e-learning course was introduced this year, which is now available online for all researchers. The provision of in-house training on

research integrity will also enable the College to collect and maintain accurate training records for all researchers. As well as being useful in their own right, these training records will also assist the College in providing information for future audits by research funders.

RESEARCH MISCONDUCT

5. In 2020-21 the College received sixteen allegations of research misconduct, a significant increase on the number of complaints received in most previous years. At the same time the number of cases referred for full investigation also increased to three from just one each year in the previous three years. It is not yet clear if these increases are indicative of a longer-term trend, or if cases will return to a more usual number in future. Further statistical information on research misconduct cases is attached at Annex A.

6. A common feature of several allegations since 2012, including four in 2020-21, is the inclusion of plagiarised material in manuscripts presented for publication. The four cases this year included two in which data was included in publications by students without the authorisation of their principal investigators and co-authors, and two in which College researchers were accused of plagiarising material by external academics (both allegations were dismissed after investigation).

7. The College also receives a number of allegations of fabrication or falsification of data in research papers and proposals. These allegations are often made anonymously, or as a result of comments made on websites such as PubPeer. In 2020-21 seven allegations of data manipulation or fabrication were investigated as a result of either comments made online, or as a result of anonymous allegations received by the College.

8. Disputes over the inclusion or exclusion of researchers listed as co-authors on papers continue to result in a significant number of allegations each year. In order to avoid authorship disputes, departments and principal investigators are encouraged to confirm at the outset that only those researchers who have made a significant intellectual or practical contribution to the work should be listed as a co-author, and that all authors should abide by the College's authorship guidelines.

RESEARCH MISCONDUCT ALLEGATIONS REFERRED FOR FULL INVESTIGATION AND/OR FOUND TO BE PROVEN

9. In 2020 the College received an allegation that a small study had been conducted by a Professor for his private company without first obtaining ethics approval for the study. The allegations were investigated by a panel including independent external membership. The

Panel concluded that the professor should have obtained ethics approval before conducting the study.

10. In 2020 the College also investigated an allegation of potential data manipulation in a paper originally published in 2016. The investigation confirmed that the original data had been deleted in contravention of the College's and the research funder's data retention policies. The investigation panel concluded that the allegation of research misconduct was proven on the basis of the unauthorised deletion of research data. As a result of the College investigation the paper was retracted.

11. A PhD student who had been unable to complete some control experiments during the first lockdown was found to have falsified some missing control data, as well as manipulating some of his other results. The falsified and manipulated data had been included in his draft PhD thesis, and in 2 papers that were being prepared for publication. The student admitted the offence and all suspect data was removed from his thesis and from the draft papers.

12. As part of his studies, a medical student undertook a project with a College research group. It was later discovered that the student had submitted the results from his project to a conference as an abstract without having obtained the consent of the PI and other members of the research group. The abstract, which included previously unpublished data about the research group's work, was published on the conference website, but was swiftly removed by the conference organisers as soon as they were contacted by the College. The student admitted the offence and accepted responsibility for his actions.

Grainne Brankin
May 2022

RESEARCH MISCONDUCT

The following charts show the number of allegations of research misconduct received and the investigation outcomes since 2012, as well as the types of allegations made this year, and since 2012.

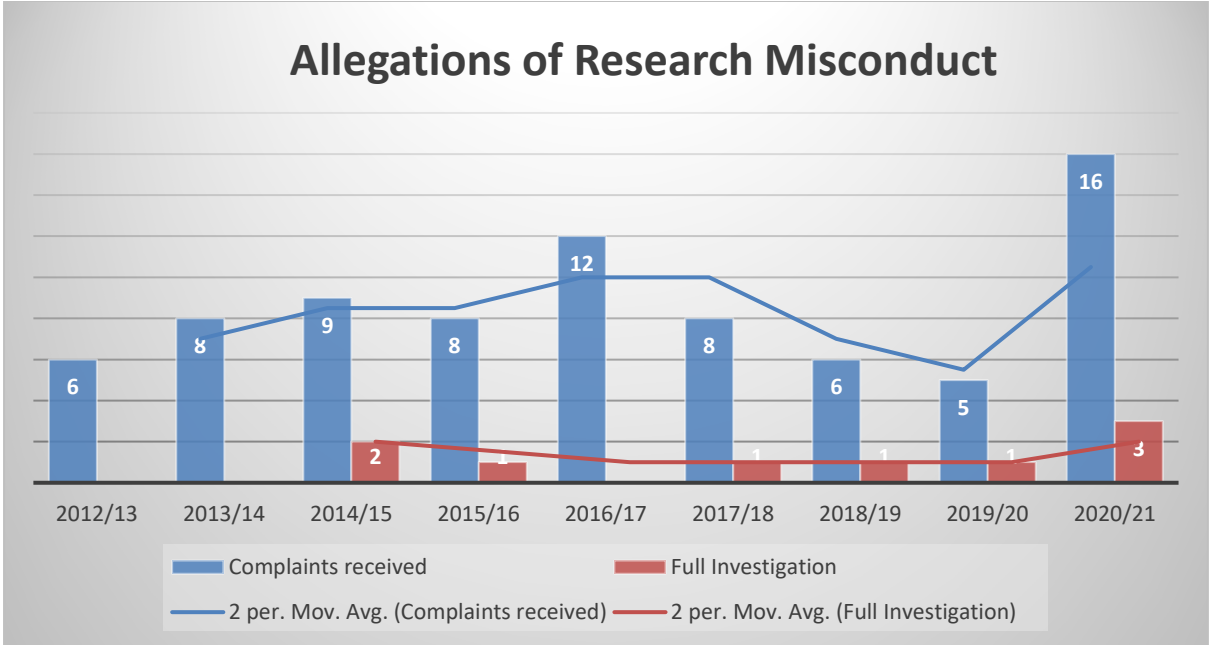


Figure 1. Allegations of research misconduct 2012 – 2021

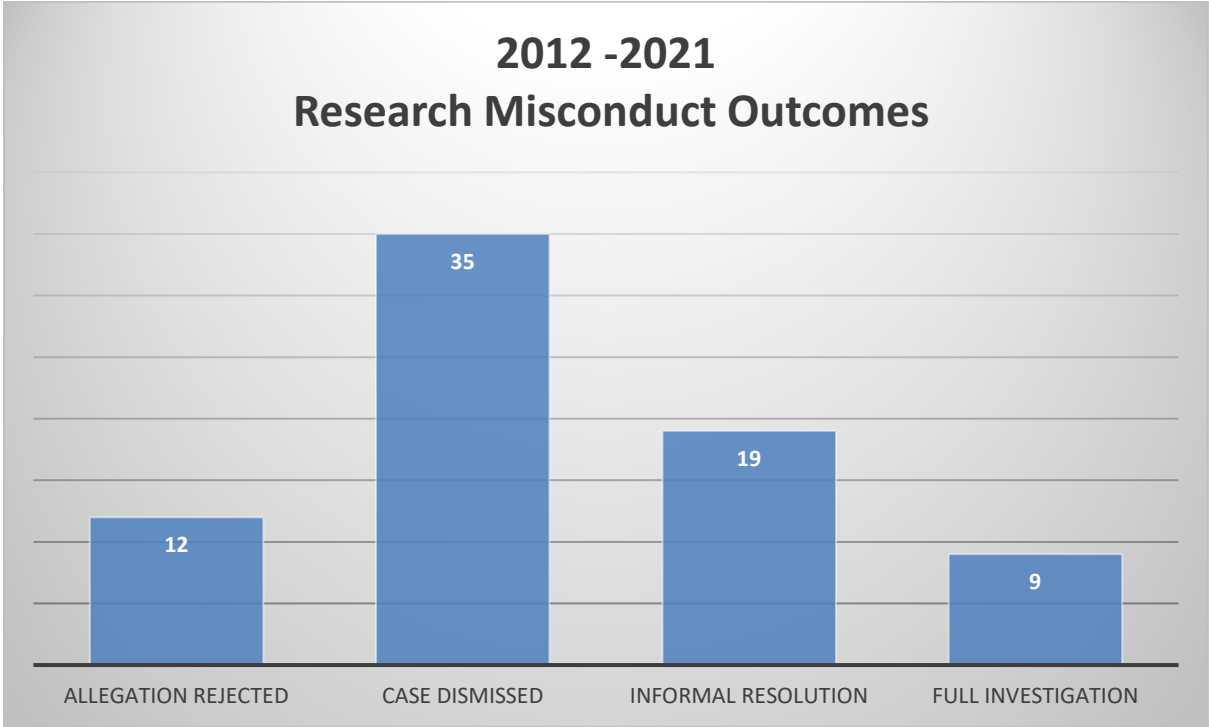
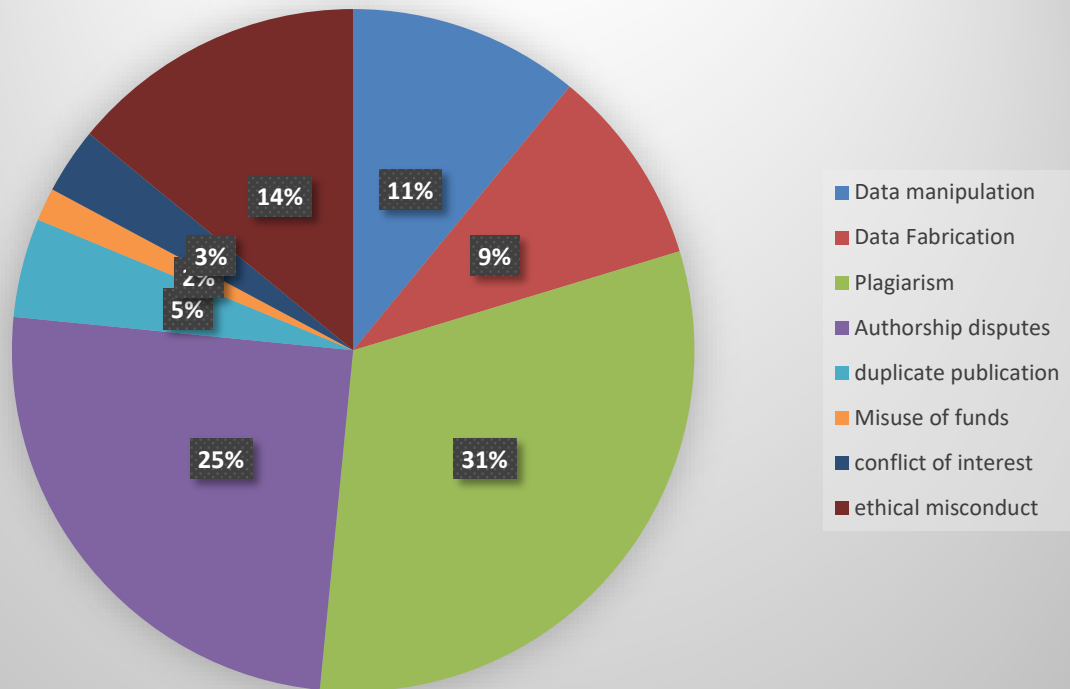
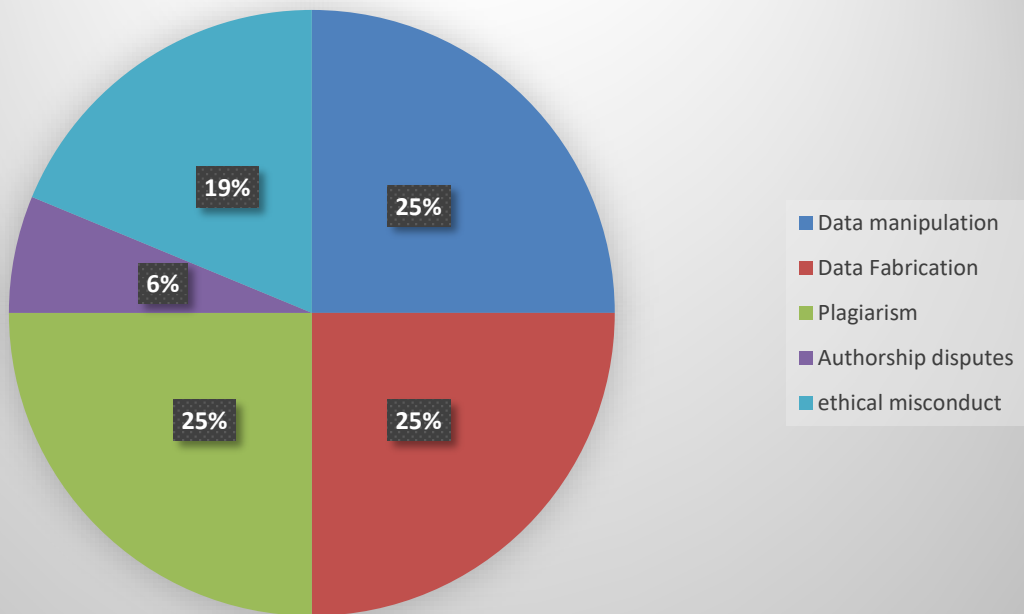


Figure 2. Research misconduct investigation outcomes since 2012.

Research Misconduct allegations 2012-21



Research Misconduct allegations 2020-21



Figures 3 and 4. Nature of research misconduct allegations made since 2012 and in 2020-21

RESEARCH INTEGRITY FRAMEWORK

1. Imperial College London is a signatory to the UK Concordat to Support Research Integrity, which was revised and updated in 2019. The Concordat seeks to provide a national framework for good research conduct and its governance. All of its signatories, including the College, are committed to:

- *upholding the highest standards of rigour and integrity in all aspects of research*
- *ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards*
- *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*
- *using transparent, timely, robust and fair processes to deal with allegations of research misconduct should they arise*
- *working together to strengthen the integrity of research and to review progress regularly and openly.*

Accordingly, the College not only provides support, guidance and training for researchers so that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards, it also has robust processes in place to deal with allegations of research misconduct when they arise.

2. The revised Concordat also includes the following commitments for research organisations, with which the College also complies:

“Employers of research will:

- *identify a named senior member of staff to oversee research integrity and a named member of staff who will act as a first point of contact for anyone wanting more information on matters of research integrity ensure that this information is kept up to date and publicly available on the institution’s website.*
- *provide a named point of contact or recognise an appropriate third party to act as confidential liaison for whistle-blowers or any other person wishing to raise concerns about the integrity of research being conducted under their auspices.*
- *produce a short annual statement, which must be presented to their own governing body, and subsequently be made publicly available, ordinarily through the institution’s website. This annual statement must include:*
 - *a summary of actions and activities that have been undertaken to support and strengthen understanding and the application of research integrity issues (for example postgraduate and researcher training, or process reviews)*

- *a statement to provide assurance that the processes the institution has in place for dealing with allegations of misconduct are transparent, timely, robust and fair, and that they continue to be appropriate to the needs of the organisation*
- *a high-level statement on any formal investigations of research misconduct that have been undertaken, which will include data on the number of investigations. If no formal investigation has been undertaken, this should also be noted*
- *a statement on what the institution has learned from any formal investigations of research misconduct that have been undertaken, including what lessons have been learned to prevent the same type of incident re-occurring*
- *a statement on how the institution creates and embeds a research environment in which all staff, researchers and students feel comfortable to report instances of misconduct.*

3. The College confirms on its [Research Integrity](#) webpages that the senior member of staff with leadership oversight for research integrity at the College is the Vice-Provost (Research and Enterprise), Professor Mary Ryan; and that the named point of contact for any person wishing to raise concerns about the integrity of research conducted at Imperial College is the College Secretary and General Counsel, Grainne Brankin, who is both the Chair of the College's Research Misconduct Response Group (RMRG), and the designated person to receive Public Interest Disclosures under the College's whistleblowing procedures.

4. The College considers an annual report on research integrity and misconduct. This report from the RMRG provides the Provost's Board with a statement of the actions taken to support research integrity, and to investigate concerns about research in the last year, and forms the basis of the annual high-level statement on research integrity made to the Council. A copy of the annual report to the Council is then published on the College's Research Integrity webpages.

RESEARCH INTEGRITY

5. The College's reputation and success in research are underpinned both by the quality and expertise of the individuals within the College, and by the standards of research governance and integrity that the College expects all researchers to meet. To this end, the College has adopted the Council for Science and Technology's Universal Ethical Code for Scientists and upholds its three principles, which are:

- Rigour, Honesty and Integrity
- Respect for Life, the Law and the Public Good
- Responsible Communications: Listening and Informing

6. The Vice-Provost (Research and Enterprise), Mary Ryan, has leadership oversight for the research environment, including Ethics and Integrity. The Research Office's

responsibilities now also encompass an Ethics and Integrity function that has been reviewing gaps in the College's provision in this area. Additional information and guidance on research integrity is also made available on the College website.

RESEARCH INTEGRITY TRAINING

7. The revised Concordat to Support Research Integrity confirms that researchers should be provided with training on research ethics and research integrity and that they should also be provided with suitable learning, training and mentoring opportunities to support the development of their skills throughout their careers. In addition, funders are increasingly seeking assurances that institutions are providing training for researchers which can be documented as part of each individual's training record.

8. To support these requirements, the College provides a variety of training opportunities and guidance to its researchers, including a new Research Integrity & Ethics at Imperial College e-learning course, as well as other training programmes covering health and safety, academic supervision, intellectual property, the responsible conduct of animal research, data protection, plagiarism awareness etc. In addition to these College's online resources and training opportunities, new fellows and clinicians are provided with a half-day induction programme which includes a specific introduction to research integrity at the College. To embed a culture of ethics and integrity throughout the College the Research Governance and Integrity team now also delivers training courses on research transparency, NHS research ethics and Imperial College Research ethics. Yearly training on ethical review has also been implemented for all College and Lay members of the Imperial College Research Ethics Committees.

9. As well as providing training and support for early research staff at the College, advice and guidance on research integrity is also provided for postgraduate students by the College's Graduate School. Its online plagiarism course is compulsory for all 1st year Doctoral students and must be completed before the 9 month Early Stage Assessment. A similar mandatory course is also provided for Masters level students.

10. The Graduate School has also developed a Supervisors' Guide, which is available online, and also as a printable handbook. The guide sets out the College's requirements for the continuing professional development of supervisors, and contains information about the recruitment of research degree students, the roles and responsibilities of supervisors and Imperial's research degree milestones. The guide is also intended to support the effective development of student supervisor partnerships, a key part of the effective development of future researchers.

RESEARCH MISCONDUCT

11. Allegations of research misconduct are considered under Ordinance D17, *the Investigation of Allegations of Research Misconduct*, which aligns closely with the requirements of the Concordat and with the UK Research Integrity Office's model procedures for the investigation of misconduct in research.

12. Under these procedures, allegations of research misconduct are made in confidence to the College Secretary and General Counsel, as Chair of the RMRG. The other members of the RMRG are the Vice-Provost (Research and Enterprise), the Director of the Research Office and the Director of HR. If the RMRG agree that an allegation constitutes research misconduct, it will arrange for a screening investigation to be conducted. There are normally three possible outcomes from a screening investigation:

a. That a *prima facie* case has not been established, in which case the allegations will normally be dismissed.

b. If the screening investigation determines that there is some substance to the allegations, but it is judged that they are minor or there is lack of intention to deceive then the allegation may be dealt with through informal resolution.

c. That there is a *prima facie* case for further investigation. In such cases, the Provost will convene an investigation panel, which must include an independent, external member, to conduct a formal investigation and reach a conclusion on whether the allegations are proven, based on the balance of probabilities. Where an allegation is upheld, it will then be referred to a disciplinary panel, which will determine the appropriate penalty to apply.

13. In accordance with the Concordat the outcome of all cases that are referred for full investigation are reported to the Council.