

Research Integrity Annual Statement 1st January 2024 – 31st December 2024

1. Introduction & key contact information

Web address of institutional research integrity page:

<https://www.npl.co.uk/corporate-information/research-integrity-governance>

Named contact points for:

- **Questions/ information on research integrity:**
 - Chief Scientist, [Professor JT Janssen](#)
 - Head of Science, [Professor Bajram Zegiri](#)
 - Head of Metrology, [Professor Richard Brown](#)
 - Director of the Post Graduate Institute, [Professor Richard Burquete](#)
- **Concerns about research integrity or research misconduct:**
 - Please email: integrity@npl.co.uk (Confidential) or ethics@npl.co.uk

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Research Integrity is a bedrock for trust in NPL, our impartiality, probity and the rigorous accuracy and reproducibility of our research. Everyone at NPL is required to act with integrity and comply with our code of conduct and our ethics policy. We are committed to the principles of the concordat to support research integrity:

1. upholding the highest standards of rigour and integrity in all aspects of research
2. ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards
3. 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
4. using transparent, timely, robust and fair processes to deal with allegations of research misconduct, should they arise
5. working together to strengthen the integrity of research and to review progress regularly and openly

As the UK's National Metrology Institute, NPL is keen to support [GO Science to implement the Concordat to Support Research Integrity within Government](#).

This statement is publicly made to fulfil the recommendations made by the Concordat for annual reporting on research integrity and covers the period 1st January 2024 to 31st December 2024. It was presented to NPL's governing body prior to publication. The activities detailed are being undertaken to broaden understanding of research integrity and embed good practice across the organisation. This document is designed to be stand alone, with new developments for the year highlighted in each section, with developments made in previous years that have continued also discussed.

2. Promoting high standards of research integrity and positive research culture

2.1. Current systems and culture

NPL continues to improve our systems and processes to deliver best practice and meet the expectations of the Concordat and to publicise the importance of Research Integrity to NPL staff at all levels.

Following on from initial guidance provided around the use of Artificial Intelligence (AI) tools such as ChatGPT in 2023, an AI Special Interest Group was created. In October 2024 a new procedure was created for the use of Generative AI, along with recommendations for using new and emerging tools safely and securely and a checklist to be completed. It includes a consideration of bias and unconscious bias and links to ethical considerations. Alongside this, staff in the Data science team created an internal intranet page discussing examples of how bias can influence research and innovation.

In 2024, the Ethics Committee added a new member bringing the total number to nine. The Ethics Committee received 10 project proposals out of which, 6 involved the use of human or animal material, 1 involved use of human data (facial data recognition) and 3 involved doing business with countries that potentially posed reputational risks to NPL. A decision was documented for each project.

During 2024, UKRIO offered the opportunity for NPL staff to view an introductory UCL-developed training video on the importance of Research Integrity. In total, 134 NPL staff registered providing good feedback on the high-level content. We are in the process of developing our own be-spoke NPL training video which will be provided to all staff, including new starters as part of their Induction. It is anticipated that this material should be available towards the end of 2025.

The Knowledge Management System (KMS) for publications is embedded within NPL processes. A number of improvements were made in 2024 including (but not limited to) separating comments from science area leaders and group leaders, providing additional options for IP review, documenting the workflow of records, as well as creating notifications for users who may have left the organisation. Further improvements to the system are planned to improve user experience and uptake.

2.2. Changes and developments during the period under review

In response to the Research Integrity allegation investigated in 2024 reported in Table 1, remedial measures have been put in place which will be rolled out across NPL. This involved highlighting the need for care regarding the use of data at a local meeting of the Team involved, and a modification of the publication check-list to include the text *“Note that permission to publish shall be obtained from the owner of any data used in the paper prior to starting writing. Use here includes usage of either data or metadata as an example illustrating the concepts that the paper describes whether or not conclusions about the specific data set are reported in the paper. If there is doubt about whether such permission is necessary, the permission shall be sought”*.

During 2024, NPL became a signatory of the San Francisco Declaration on Research Assessment (DORA, <https://sfdora.org/>). DORA advocates moving away from the application of hard metrics such as Journal Impact factor and *h*-index in assessing science quality and in making recruitment and career progression decisions. DORA emphasises a need to apply these metrics in combination with other, more qualitative assessments of outputs. These include broader measures of research output (data sets, software) as well as indicators of impact such as the influence research has on policy or best practice. An over-reliance on bibliometrics is of global interest and has been shown to have potential deleterious impacts on diversity, research integrity and science development. DORA principles have been fed into NPL's recruitment and promotion procedures.

The signing of DORA and the rationale for NPL becoming a signatory, was fed back to NPL in a blog generated by the NPL Head of Science. A further communication to NPL summarised a meeting held at the Royal Society by the Foundation for Science and Technology entitled *“Safeguarding trust in science: the role of research integrity”*. NPL is also reviewing its policies and procedures in line with the Researcher Development Concordat, with a view to signing in 2025.

The Technical Output Focus Event started in 2023 has been used by the Chief Scientist Directorate and the Assurance Team as an opportunity to strengthen the communication and control surrounding NPL's scientific outputs and the importance of their integrity. This initiative involved a new technical output policy consolidating NPL's existing requirements into a single document, and an organization-wide quality 'health-check' review (a 'Technical Output Focus Event'). This aimed to assure the current fitness-for-purpose of our technical outputs provided to users. Any deficiencies identified during the review were rectified, and assessed for effectiveness at a Science Department level, with progress being reported back to the Chief Scientist Directorate and the Assurance Team for final evaluation. This process has helped identify areas requiring improvement and this has in a large part shaped the internal audit calendar for the first half of 2025. Discussions with the Quality Lead community at NPL has led to an agreement to embed this internal quality health check as a business-as-usual process going forwards. This will be controlled at a local level, with a recommended annual assessment cycle, beginning in 2025.

Senior Leaders at NPL received a “Secure Innovation and Trusted Research” presentation from The National Protective Security Authority’s (NPSA) newly launched Secure Innovation campaign. This provides security advice that can help UK organisations protect their innovations from day one. The session was an opportunity to learn about NPSA’s advice for companies, how the campaign developed and why this issue is so important for UK business. It particularly focussed on newly developed IP and upstream R&D academic activities and how NPL can think about considered control measures.

2.3. External engagement

- Professor Ian Gilmore remains a member of the UK Committee on Research Integrity (UK CORI): <https://ukcori.org/our-people/> and is participating in a small AI working group looking at the implication of AI to Research Integrity. Activities of the Group are currently in the consultation phase.
- The NPL Head of Science attended the 8th World Conference on Research Integrity which was held in Athens from 2-5 June 2024.
- NPL remains subscribed to the UK Research Integrity Office (UKRIO)
- NPL remains an affiliate stakeholder of the UK Reproducibility Network.
- Professor Bajram Zeqiri was invited to participate as a stakeholder to the European Project IRISE which stand for “Improving Reproducibility in Science”, designed to undertake a survey to derive a consensus view on priorities for research reproducibility interventions.

3. Addressing Research Misconduct

3.1 Statement on processes

NPL has policies, procedures and processes embedded in our Quality Management System (QMS) that allow us to effectively deal with allegations of misconduct. All policies and procedures are subject to regular review and are controlled by the Quality Assurance Team. These include but are not limited to:

- Code of Conduct
- Knowledge, Information and Data Management Policy
- Technical Output Policy
- Ethics Policy
- Whistleblowing Procedure
- Bullying and Harassment Procedure
- Grievance Procedure

Staff are encouraged to raise concerns regarding research integrity and can utilise multiple mechanisms to do so, including a dedicated email inbox monitored by the Chief Scientist Directorate.

3.2 The NPL Statement on any formal investigations of research misconduct that have been undertaken.

A summary is provided in Table 1 showing the number of formal investigations completed in this period and of those, the number which were upheld (either in whole or in part).

Research Misconduct Investigation: An allegation of Research Misconduct against an NPL member of staff was received through the NPL's external research integrity email (integrity@npl.co.uk). The accusation related to plagiarism, with potential violations of NPL's Code of Conduct and the Laboratory's publication procedure, whose requirements specifically align with the UK Concordat on Research Integrity. The investigation was carried out in accordance with the UK Research Integrity Office guidance document "*Procedure of the investigation of misconduct in research v.02*". This involved reviewing the evidence for plagiarism, supported by interviews with the parties involved, both internal and external to NPL. A decision will be made in early 2025 on whether Research Misconduct had taken place or not.

Ethical Issue: Alleged breach of ethics: A single Ethical issue was investigated in 2023, instigated by the NPL Ethics Committee in response to an approach from an NPL member of staff. The issue centred on documentation that the member of staff was asked to generate, which they felt violated specific sections of the NPL Ethics Policy. Through a series of interviews and analysis of relevant documentation obtained from various sources, this was the subject of a detailed investigation by a two-person team who reported back to the NPL Ethics Committee. The investigation concluded in 2023, but the outcome was determined in Q1 2024. The Ethics Committee concluded that there was no Ethical issue associated with the member of staff being asked to generate the documentation.

NPL confirms that we have fulfilled any requirements to make reports to external bodies, including regulatory and professional bodies, regarding the initiation or completion of a formal investigation.

Professor JT Janssen
Chief Scientist
National Physical Laboratory (NPL)

Table 1 Research Integrity Statement – 1st January 2024 to 31st December 2024

	Number of allegations for which an investigation has been undertaken	Number of allegations upheld (in whole or in part)
Fabrication	0	0
Falsification	0	0
Plagiarism	1	0
Misrepresentation	0	0
Breach of Ethics	1	0
Breach of Duty of Care	0	0
Authorship disputes	0	0
Other e.g., unprofessional behaviour relating to research misconduct	0	0