

Royal Society of Chemistry Guide to Ethics

Contents

1	Introduction	1
2	Your role in upholding high standards	2
3	Ethical standards	3
4	Speaking out	4
5	For employers, managers and supervisors	5
6	For employees	7
7	For teachers and educators	9
8	For students	11
9	Publishing ethics: for authors, reviewers and editors	12
10	For volunteers	13
11	Communicating (including social media)	14
12	Health and safety and the environment	15
13	For the self-employed and consultants	16
14	For those managing intellectual property (IP)	17
15	Trade unions and industrial action	18
16	Presenting legal evidence	19
17	Tribunals and inquiries	20

1 Introduction

The Royal Society of Chemistry is the professional body for chemistry and the chemical sciences. Through our [Royal Charter](#) we have responsibility for advancing the chemical sciences by:

- sharing and publishing chemical knowledge, innovations and breakthroughs
- driving and upholding the highest standards of qualification, competence and conduct of chemical scientists
- serving the public interest by acting in an advisory capacity on matters relating to the science and practice of chemistry
- supporting our members to thrive and make a positive impact.

As a professional body, we set the standards for the chemical sciences profession. Maintaining these high standards, especially within our membership, is a collaborative effort. We work with stakeholders such as employers, funding bodies, policymakers and government to create a culture of good ethical practice. This includes raising awareness of professional scientific conduct across the breadth of the chemical sciences.

This guide will help all those in the chemical science community manage the demands on their working lives and any ethical issues that may arise. It also raises and enhances the standards in the [Code of Conduct](#) that all members commit to when joining the Royal Society of Chemistry.

Important note

Individuals should be aware of additional resources such as those below that relate to specific issues:

[The UK Concordat on Research Integrity](#)

[The Hague Ethical Guidelines](#), which is informed by the Organisation for the Prohibition of Chemical Weapons

[Universal Ethical Code for Scientists](#)

[EU \(Horizon 2020 Responsible Innovation\)](#)

[UK Guidelines for ethical regulation](#)

[CIPD Ethics at Work - Employers Guide](#)

[The Equality Act 2010](#)

[Professional development for members](#)

2 Your role in upholding high standards

We expect all chemical scientists to follow high professional and ethical standards, which enhances the reputation of the chemical sciences. It is also a pre-requisite for any form of RSC recognition.

As a member of the RSC, you are not only representing yourself but the wider chemical sciences community and you should act as a role model to others. Your professional conduct can reflect on the profession and that of the RSC as a whole, and members should challenge poor behaviour when observed.

2.1 Professional conduct

Having a high regard for the public interest is essential, as is that of maintaining your own dignity and that of colleagues, collaborators, employees, employers and students. In particular, we expect members to uphold the [Code of Conduct](#) and:

- observe the Charter and By-laws of the Royal Society of Chemistry and any regulations made under them
- conduct themselves honourably and with integrity in the practice of their profession
- maintain the highest standards of competence, especially in carrying out any statutory duties relevant to a particular appointment or area of employment
- encourage inclusivity and protect the dignity and welfare of the community
- respect others at all times and fulfil duties in a fair manner by being aware of and limiting any biases
- further the interests and maintain the reputation and welfare of the Royal Society of Chemistry.

Members should never engage in an action that conflicts with their own integrity or that of the Royal Society of Chemistry. We do not condone any attempts to coerce our members into unlawful activity. Members can contact us for advice at any time by emailing membership@rsc.org

2.2 Continuing professional development

The profession as a community has an expectation of advancing knowledge and skills, and as such continuing professional development should be seen as an expectation of science as a discipline.

Individuals within the chemical sciences community, including Royal Society of Chemistry members, have a responsibility through continuing professional development (CPD), and developing their competencies in accordance with the needs of their role.

CPD is important for members wishing to progress in a professional working environment. For example, those who wish to apply for [Chartered Chemist](#) (CChem), Registered Scientist (RSci) or any other professional recognition award need to demonstrate their commitment to CPD in their chosen field on an annual basis.

3 Ethical standards

We set professional and ethical standards to ensure the credibility of the chemical sciences and its practitioners. This is fundamental to increasing the reputation of the chemical sciences and its role in helping address global challenges.

Ethical practice applies to all fields of chemical science and our standards are designed to complement:

- regulations that apply locally and internationally (we acknowledge customs in various parts of the world differ. However, all our members accept the same obligations on admission to the Royal Society of Chemistry)
- ethical and professional guidance for associated fields
- Depending on the sector in which you work, or particular task you are completing, ethical practice can change and differ. However, the four underlying ethical standards will always apply.

Inclusivity

Working in an inclusive and non-discriminatory manner at all times is essential in upholding professional standards. This means being aware of and removing barriers for all individuals.

By 'inclusion', we mean that people feel they belong in the world of chemical sciences; by 'diversity' we mean anything that can make us different from others. This includes (but is not limited to) demographic background such as gender, ethnicity, age, and disability, as well as areas such as socio-economic status, education, neurological status, career path and stage. Diversity within the workplace should be seen as a way to create and nurture different views and add strength to any aspect of working life. [Take a look at our resources](#) for more on our definitions of inclusion and diversity.

Integrity

Working with honesty and not wilfully misleading others is a fundamental attribute for scientists. The research and practice of chemical science should be objective and decisions taken in a fair and impartial manner. Work should be conducted in a lawful and ethical manner, which will enhance the justification of that work to the wider public. Avoiding professional misconduct and declaring conflicts of interest are integral to maintaining the integrity of the chemical sciences.

Respect

Respecting others, and the rights of others, is important in retaining dignity and wellbeing in the workplace. Working to limit implicit bias is essential to a professional work environment. Accepting and reasoning with the viewpoints of others, reporting and never condoning bullying and harassment, and whistleblowing if necessary, helps preserve the dignity of others.

Responsibility

Demonstrating personal responsibility is an essential part of working professionally. It requires good listening and communication skills. These skills are essential to acknowledge and act on the concerns of others. Exercising judgement and never misleading others will enhance the reputation of individuals, institutions and the profession as a whole.

4 Speaking out

If anyone is a witness to misconduct in research, to bullying and harassment or needs further information on the ethics of a course of action, they can [contact the Royal Society of Chemistry](#) for guidance. Often, consultation with a colleague or mediation can resolve issues that arise in the workplace.

Although speaking out is often seen as an individual action, it should be the responsibility of all to embed this culture and allow individuals to raise concerns when appropriate. It takes courage to speak out. By creating an inclusive culture, employers and wider communities will benefit from these actions through increased integrity.

4.1 What should you do?

When speaking out, depending on the severity, you should prepare fully and evaluate the implications for you and others. Making unfounded allegations in itself is unethical and every effort should be made to have supporting evidence prepared for any future eventuality. Reporting – where possible – should be through an appropriate process. Receiving and reacting to feedback from any action is important, which includes respecting the viewpoints of others and then deciding whether escalation is appropriate.

There are a number of steps you can follow to escalate an issue.

4.1.1 Informal disclosure

Approaching the wrongdoer(s) can often resolve an issue at source. Seeking advice and support confidentially from colleagues can provide assurance and guidance on the next steps to take.

4.1.2 Formal disclosure

Most organisations will have formal procedures for reporting wrongdoing. These processes should be clear and transparent. At this stage, you should prepare appropriately, which may often require evidence, and appraise the consequences of any wrongdoing. Acting on hearsay is not recommended.

4.1.3 Disclosure to the professional body

You can seek advice from the Royal Society of Chemistry. If you wish to escalate this into a formal complaint against one of our members you can find information [here](#). We offer support to anyone who feels they need it through our [Bullying and Harassment](#) support line and our [Chemistry Community Fund](#) (members only).

4.1.4 Public disclosure through the media or government

This should be contemplated carefully. Such action would almost certainly have extreme consequences and we recommended that you evaluate all other options before considering this route.

5 For employers, managers and supervisors

As an employer, manager or supervisor, you will be in a position of influence. You should make clear and transparent ethical statements and set employee expectations. Working practices and policies should be clearly outlined. You should operate lawfully and be able to explain decisions appropriately.

It is also the responsibility of the wider organisation to create a culture of good ethical practice to make all of the above possible.

Applying the ethical standards

Inclusivity

- Provide equal opportunities without discrimination
- Support a diverse workforce and maintain an accessible environment
- Be impartial and transparent in all aspects of employment
- Adhere to good human rights practices
- Recognise that in many circumstances conflict can be resolved through good communication and discussion

Integrity

- Maintain confidentiality when using personal information
- Accurately appraise the work of others
- Be honest and truthful in all aspects of your work
- Never attempt to obtain or accept any bribe or secret commission of any sort
- Never pressurise or knowingly allow employees to publish or report false or selective data, reports or results
- Follow the laws and regulations in the country where you carry out your work
- Never ask others to act unethically

Respect

- Create an environment in which employees are fully comfortable to be themselves and are able to meet their objectives, succeed and realise their potential
- Create an atmosphere where employees can speak out and challenge others
- Be a role model for good professional behaviours
- Never bully or harass others or allow an atmosphere where this is accepted
- Never create undue stress on individuals to work unethically

Responsibility

- As a supervisor or manager, you should establish the parameters for your supervisees/employees to follow
- Recognise the right of employees to exercise their discretion
- Encourage an environment of innovation
- Facilitate the professional development of employees
- Maintain up-to-date records and provide accurate references on request
- Resolve conflict with clear procedures that are free of conscious and implicit bias.
- Act upon conduct inconsistent with values and policies
- Provide an appropriate risk management system
- Maintain health and safety and the security of laboratories and employees
- Also be aware of any implications that are of public interest and interest to the wider environment
- Supervisors or managers should establish the parameters of any voluntary role before employees start

6 For employees

If you are an employee, you not only have rights of employment, but usually also obligations and contractual requirements when entering your employment. There are also legally enforceable duties that arise from the relationship between you and your employer. These apply even if they are not confirmed in writing.

Applying the ethical standards

Inclusivity

- Never act with discrimination
- Contribute to an inclusive and diverse environment at all times
- Recognise that in many circumstances conflict can be resolved through good communication and discussion
- Adhere to good human rights practices

Integrity

- Diligently provide loyal and willing service
- Work with honesty and report any wrongdoing to the appropriate person or body
- Follow the laws and regulations in the country where you carry out your work
- Maintain accurate records and never publish or knowingly communicate false results to others
- Obtain your employer's permission when entering other employment that could be considered in conflict with the primary workplace
- Never attempt to obtain or accept any bribe or secret commission of any sort
- Never release confidential information obtained from employment which is detrimental to the employer (both during and after employment, without a time limit)
- Allow your employer to profit from discoveries and inventions arising from the normal duties associated with employment (there may be a provision for an employee to derive benefit from an innovation of outstanding benefits to the employer)

Respect

- Treat all colleagues, including supervisors, with respect
- Treat the property of the employer and others with respect
- Never bully or harass others or enable an atmosphere where this is accepted
- Contribute to an environment in which all employees are comfortable to be themselves and succeed
- Never act unethically and speak out when you see unethical behaviour

Responsibility

- Be willing to adopt new and improved methods of working and contribute to an environment of success
- Apply good risk management practices
- Provide whatever skills and competencies were outlined when entering employment
- Report conduct inconsistent with the organisation's values and policies
- In small organisations, recognise that the chemical scientist may be the only subject matter expert present. In these circumstances the Royal Society of Chemistry can be consulted in the strictest confidence
- Follow all expectations with respect to health and safety, and the security of laboratories and colleagues. Also be aware of any implications that are of public interest and interest to the wider environment

7 For teachers and educators

Working within education (at any level) brings with it accountability for laying the foundations of ethical standards. You have a duty to lead by example and continually enhance good scientific conduct. In doing so, future generations will continue this trend.

Applying the ethical standards

Inclusivity

- Never act with discrimination
- Contribute to the creativity of an inclusive and diverse environment at all times
- Use teaching materials and examples that are representative of a diverse and inclusive environment
- Be aware of, and responsive to, the needs of a diverse group of students
- Ensure teaching practices are inclusive and accessible to all.
- Make sure to consider how a range of factors can inhibit an individual's ability to learn
- Advance the equality of opportunity and adapt teaching methods for those with varying abilities (Teaching SEND students may require further specialist training and development)

Integrity

- Set the highest standards of personal integrity through good ethical practice
- Be aware that you will potentially have access to sensitive personal information that should be treated appropriately
- Follow the laws and regulations in the country where you carry out your work
- Maintain an open and transparent form of assessment
- Highlight the importance of accuracy when carrying out investigations
- Monitor any conflict of interest that may develop between your responsibilities to your students and the teaching establishment

Respect

- Treat all colleagues and students with respect
- Act as a role model and exemplify professional and respectful behaviours
- Treat the property of your employer and others with respect
- Never bully or harass others or enable an atmosphere where this is accepted
- Contribute to an environment in which all colleagues or students are comfortable to be themselves and succeed
- Be aware that students may potentially be more vulnerable members of society. Be aware of safeguarding policies and procedures and act accordingly

Responsibility

- Set an example to your students by demonstrating high professional standards that inspire, motivate and challenge them
- Encourage students to have a responsible and conscientious attitude towards their work and study
- Be responsible for the health and safety of your students while in the laboratory. Ensure your students observe all the relevant safe working practices, and also be aware of any environmental implications
- Teach with a secure knowledge of the relevant subject and have a commitment to increase this knowledge, including advancements in those areas

8 For students

As the next generation of chemical scientists, students have a duty to learn and improve ethical standards as they progress through their education. As science is becoming increasingly multidisciplinary, consideration should be given to ethical standards in other sectors, such as healthcare or pharmacy, if this applies to you.

Applying the ethical standards

Inclusivity

- Contribute to an inclusive and diverse environment
- Treat all students, teachers and visitors with respect and dignity
- Contribute to decision-making to ensure continuous improvement where appropriate

Integrity

- Act with honesty and integrity
- Exercise good scholarship and respect the views of others
- Be aware of the critical importance of accuracy, record-keeping, and subsequent reporting of findings, results and data
- Never partake in or condone plagiarism

Respect

- Treat other students and teachers with respect and understand the needs of those from underrepresented groups
- Treat the property of the school, college, university or institution and others with respect
- Respect the rules and guidelines outlined as part of your study and assessment
- Never bully or harass others or contribute to an environment where this is accepted
- Contribute to an environment in which all students and teachers are comfortable to be themselves and succeed

Responsibility

- Work in partnership with teachers and providers to strengthen educational environment and engage in the pursuit of knowledge
- Meet required deadlines for various aspects of study
- Show respect for, and follow, health and safety guidelines
- Be aware of the environmental implications of your actions
- Be inquisitive and never afraid to ask questions
- If you tutor or mentor others, ensure you act appropriately and realise the extra responsibility you have and will be seen to have

9 Publishing ethics: for authors, reviewers and editors

The publication of scientific research in journals is one of the ways in which we meet our Royal Charter objectives. We set ethical standards for publishing to ensure the integrity of the scientific record.

Editors, authors, reviewers, and anyone participating in the publication of scientific research has a responsibility to uphold these standards.

In cases where these guidelines are breached or appear to be so, the Royal Society of Chemistry will consult the [core practices](#) and [best practice guidelines](#) of the [Committee on Publication Ethics \(COPE\)](#) and act accordingly.

Applying the ethical standards

Inclusivity

- Support a diverse author, reviewer and editor community, and encourage participation from underrepresented groups
- Be aware of potential disabilities and ease of reading when authoring
- Be aware of, and seek to mitigate the effects of, conscious and implicit bias in decision-making
- Ensure due credit is given to all those contributing to the work, including previous work that inspires any publication

Integrity

- Gather data with a high level of reliability and report findings honestly
- Lead author should check submissions for plagiarism prior to peer review
- Declare all sources of funding and make clear any conflicts of interest
- Conduct peer review and editorial roles with due confidentiality and impartiality
- Report suspected misconduct to the appropriate person or body

Respect

- Treat all stakeholders in the publishing process with respect
- Remain objective, constructive and impartial, and do not make personal criticisms of others when participating in peer review or scientific debate
- Never bully or harass others or enable an atmosphere where this is accepted

Responsibility

- Highlight any hazards or risks associated with the reported work
- The lead author is ultimately responsible for publication
- Ensure data is available to future scrutiny
- Acknowledge funders and other stakeholders
- Ensure appropriate approval, informed consent, or both, for studies using live animals or human subjects
- Be aware of copyright compliance

Supporting materials

- [COPE Ethical Guidelines for Peer Reviewers](#)
- [RSC reviewer responsibilities](#)

10 For volunteers

Volunteering is when individuals give up their time freely to do a role, jointly agreed with an organisation.

Applying the ethical standards

Inclusivity

- Contribute to an inclusive and diverse environment at all times
- Act in a way that does not discriminate or exclude anyone
- Recognise that in many circumstances conflict can be resolved through good communication and discussion

Integrity

- Follow the law and regulations in the country where you carry out your voluntary role
- Never attempt to obtain or accept any bribe or secret commission of any sort
- Never ask others to act unethically

Respect

- Treat all staff and volunteers with respect
- Never bully or harass others or allow an atmosphere where this is accepted
- Contribute to an environment in which all volunteers are comfortable to be themselves and succeed
- Speak out when you see unethical behaviour
- Understand and respect that other volunteers may have differing levels of commitment

Responsibility

- Work with other volunteers and staff to achieve the strategic aims and objectives of any activity
- Be aware of, and declare, any perceived or actual conflict of interest
- Your supervisor or manager should establish the parameters of your voluntary role before you start

11 Communicating (including social media)

The high ethical standards we set reflect the complexity of today's workplace. Science is increasingly collaborative and international. Diversity within the chemical sciences is growing. We can reach people faster than ever through a variety of digital channels. Effective communication should consider the needs of the audience and have a clear purpose.

Applying the ethical standards

Inclusivity

- Do not make discriminatory or abusive statements
- Ensure any communications treat others with appropriate dignity and respect
- Be aware of the speed at which social media posts are viewed and the diverse global audiences they can reach
- Be aware that context can be lost in the written word
- Consider the diversity of the audience and ensure communications are appropriately accessible
- Be mindful of language used, and how different cultures may interpret it

Integrity

- Check the reliability and accuracy of information before dissemination
- Be clear when expressing a personal opinion, rather than stating facts. This is especially true when those personal opinions are not shared by others
- Do not use other stakeholders as a way to endorse personal views without prior agreement

Respect

- Act as a role model and exemplify professional and respectful behaviours in all forms of communication
- Communicate appropriately for the audience, being considerate of people from different backgrounds and experiences
- Maintain confidentiality and never share any communication on anyone else's personal circumstances or experiences unless specific permission is given
- Never bully or harass others or enable an atmosphere where this is accepted

Responsibility

- Be aware of the potential impact of statements made through new technologies, social media and the media in general
- Bear in mind that what is said in the media may be taken as representing a general opinion of wider groups and potentially all chemists or scientists
- Consider the nature and objective of the programme or publication and ensure comments are not taken out of context
- Be aware that bad news generally attracts more attention than good and the media may exaggerate the seriousness of an issue

12 Health and safety and the environment

Employers, employees, and others working in the chemical sciences must be aware of regulations that relate to their field of scientific work. For example, health and safety and the environment, negligence, discrimination, and data protection.

Applying the ethical standards

Inclusivity

- Be aware that smaller organisations will rely on individuals to ensure compliance of the law
- Employers must ensure workplaces are appropriate and meet any legislation on accessibility

Integrity

- Minimise adverse effects on health, safety and the environment. Recommend the use of best health, safety and environmental practice and give appropriate advice
- Speak out and put objections on record if legal requirements are being overlooked, and do all you can to put matters right

Respect

- Respect the viewpoints and situations of others
- Never endanger others or yourself

Responsibility

- Maintain a broad and up-to-date understanding of the regulations and other developments in your field
- Be aware of any specific legislation or guidelines for any particular sector you engage with
- Never place individuals in a situation where their integrity is jeopardised or conflicted

13 For the self-employed and consultants

If you are self-employed, many of the guidelines set out in section 5 (employers) and 6 (employees) will be applicable to you.

Effective working relationships are built on mutual trust and respect. It is essential, therefore, to maintain integrity through good client and customer interactions, such as confidentiality.

- Before starting any work, always agree with your client the contract of work and, in particular, the assignment of intellectual property or ownership of results (if appropriate).
- Respect the working environment of the client.
- Do not reveal information obtained from a client to a third party without consent. Such information may prevent the acceptance of new work from new clients.
- Never attempt to obtain or accept any bribe or secret commission of any sort.
- Maintain a mutual respect for the culture and environment of each party involved and also each other's freedom to operate.

Your work through direct contact within the chemical science community could have a significant impact on the perception of others outside this community.

14 For those managing intellectual property (IP)

If you are managing IP as part of your role or professional activities, you should be aware of the relevant legislation and legal implications of your actions.

Applying the ethical standards

Inclusivity

- Acknowledge past scientific work and recognise any substantial help and advice received
- Never act with discrimination

Integrity

- Guard against wrongful disclosure of confidential information, especially relating to current research and development work
- Be unbiased and honest. Refrain from all forms of plagiarism and correct any errors which may arise over time

Respect

- Respect the work of others at all times
- Never bully or harass others, or allow an atmosphere where this is accepted
- Acknowledge contributions of individuals and teams where appropriate
- Never disclose personal information to third parties without prior consent

Responsibility

- Obtain written permission from the copyright holder for any material used in any public domain
- Obtain written permission from your employer before signing a contract with a publisher
- Be aware of General Data Protection Regulation (GDPR) and other data protection legislation which may be applicable in different countries and territories

15 Trade unions and industrial action

Membership of a trade union can bring a number of benefits to employees.

Lawful participation in industrial action is not unethical and can benefit the public interest. However, it can also conflict with the duties of an individual to serve the public interest. It is the individual's choice but they should always act in a lawful manner.

There is no obligation to take part in industrial action if it is against the individual's wishes. Industrial action will potentially represent a breach of the employee's contract of employment. Some contracts of service specify that disputes which cannot be resolved by negotiation are referred to an arbitrator. We recommend this arrangement.

16 Presenting legal evidence

If you are called on to give evidence to government or parliamentary committees or other public bodies, you can contact us for advice about procedures. You may also wish to seek legal advice.

If the subject is of relevance to the wider community you may wish to contact us for our viewpoint and input. If so, we can make written or oral submissions. You should ask to see transcripts of evidence that you have given as a witness so that errors can be corrected before publication. You should also study the terms of reference and establish the capacity in which you will appear.

You should not imply endorsement by the Royal Society of Chemistry unless this is obtained in advance.

17 Tribunals and inquiries

A tribunal is usually set up after an incident that causes public concern. Tribunals usually follow legal guidance except no charges are brought. Following the hearing, a report is produced. If serious criticisms or allegations of wrongdoing are made in the report then legal proceedings may follow.

If you are called to a hearing, we can advise you about your responsibilities and rights but we are not able to present. But we may decide to be present when a question of principle is raised that affects the profession as a whole.

You should have a right to receive a copy of the transcript and challenge any misleading statement relating to the evidence. Inquiries and tribunals often determine whether incompetence contributed to an accident or incident so it is essential that you understand the capacity in which you are being called. You may seek personal legal advice before and during the hearing (this may be in addition to any legal advice provided by your employer).

Notes

A series of horizontal dotted lines for writing notes.

Notes

A series of horizontal dotted lines for writing notes, spanning the width of the page below the header.

Thomas Graham House
Science Park, Milton Road
Cambridge CB4 0WF, UK
T +44 (0)1223 420066

Burlington House
Piccadilly, London
W1J 0BA, UK
T +44 (0)20 7437 8656

International offices


Beijing, China
Shanghai, China
Berlin, Germany
Bangalore, India
Tokyo, Japan
Philadelphia, USA
Washington DC, USA

www.rsc.org

 @RoyalSocietyofChemistry

 @RoySocChem

 @roysocchem

 @wwwRSCorg

 [linkedin.com/company/roysocchem](https://www.linkedin.com/company/roysocchem)

Registered charity number: 207890

© Royal Society of Chemistry 2022