



What is Open Science?

Open Science is an approach which aims to make the knowledge gained from research openly available to as many as possible, as soon as possible. It involves the sharing of outputs including publications, data, code, sources, methods, instruments, and any other output from which others could benefit.

While Open Access to the outputs of research is an established idea, Open Science is a wider concept, extending open principles to the whole research cycle including:

- Research data management and open data: Making research data openly available, thus enabling the data to be interrogated and re-used.
- Collaborative research: Using collaborative methods to widen participation in research and to communicate research to wider audiences.
- Transparency and reproducibility: Tools, services and practices that increase access to research and contribute to the integrity of research.
- Open Access: Making the outputs of research freely accessible online.

There are benefits of open science to both the research community and wider society.

For Researchers:

- Their outputs gain greater visibility as they are not restricted by paywalls and other barriers
- Their research has greater potential for generating impact as more people read and apply their work
- Their work gains credibility through making the process of research more transparent
- It ensures compliance with funders requirements which are, increasingly, requiring the adoption of open science practices.

For Society:

- Public funds result in knowledge that can be shared as a public good
- Access to knowledge is more equitably distributed around the world
- The general public has free access to information that matters in their lives
- Practitioners and policy makers can put research findings into practice more quickly and easily
- Commercial applications of research findings can be discovered more rapidly generating economic benefits.
- Students face fewer barriers to accessing materials that can help them in their studies
- Transparency increases trust in science and belief in research findings by allowing all aspects of the scientific process to be seen and interrogated.