

**LS 452A Research Design, Ethics and Scientific Publishing 1 Credit**

Name of the Faculty : Dr. S.K. Jha\*, Prof. S. Saran, Prof. A.K. Nandi, Prof. K. Natarajan, Prof. A.C. Mondal, Prof. P.C. Rath, Prof. S.L. Panwar, Prof. S. Gourinath, Prof. P K Verma, Dr. Bhupendra Chaudhary

S.No.	Topic	Faculty Name/ Contact Hours
1.	Experimental design and interpretation of results	SKJ/2
2.	Model organisms for basic and applied research in life science: <i>Dictyostelium</i>	SS/1
3.	Model organisms for basic and applied research in life science: <i>Arabidopsis</i>	AN/1
4.	Model organisms for basic and applied research in life science: <i>Saccharomyces</i>	KN/1
5.	Model organisms for basic and applied research in life science: <i>Drosophila</i>	ACM/1
6.	Use of Radioisotopes: Irradiation, Calculation of activity/specific activity; Radiation safety; Disposal of radioactive waste	PCR/1
7.	Safety issues and Biosafety regulation related to recombinant DNA research.	AN/1
8.	Ethical issues and regulations for using transgenic plants and genetically modified crops	AN/2
9.	Ethical issues related to the use of small and large animals for research.	SKJ/1
10.	Ethical issues related to the use of human - subjects, embryos, tissues, and stem cells - for research.	SKJ/1
11.	Literature databases including hands-on assignments on literature search; Citations and indices; journal Impact factor, H-index.	SGN/1
12.	Essentials of effective scientific writing	SLP/2
13.	Ethics in scientific publishing, and awareness of misconduct in publishing.	KN/1
14.	An overview and implications of translational research. Rationale and implications of Intellectual property rights (IPR) and Patenting.	PKV/3
15.	Fundamentals of IPR; Basics understanding about Patentability. Innovation & Knowledge management; Translating Ideas to Entrepreneurship and Startups	BC/2

**Further Reading:**

1. Responsible Conduct of Research Adil E. Shamoo and David B. Resnik Oxford University Press
2. <https://oir.nih.gov/sourcebook/ethical-conduct/research-ethics>
3. [https://www.ccmb.res.in/newsfiles/year-2020/csir\\_ethics\\_2020.pdf](https://www.ccmb.res.in/newsfiles/year-2020/csir_ethics_2020.pdf)
4. <https://publicationethics.org/>
5. Other reading materials to be prescribed by respective teachers