

Resources for RCR Training

Book links

1. On Being a Scientist (3rd edition):
https://www.ncbi.nlm.nih.gov/books/NBK214568/pdf/Bookshelf_NBK214568.pdf
2. Guide for the Care and Use of Laboratory Animals (8th edition):
<https://grants.nih.gov/grants/olaw/guide-for-the-care-and-use-of-laboratory-animals.pdf>
3. Responsible Science: Ensuring the Integrity of the Research Process: Volume II:
<https://www.ncbi.nlm.nih.gov/books/NBK236192/>
4. Integrity in Scientific Research: Creating an Environment That Promotes Responsible Conduct. <https://www.ncbi.nlm.nih.gov/books/NBK208714/>
5. Introduction to the Responsible Conduct of Research (Aug 2007):
<https://ori.hhs.gov/sites/default/files/rcrintro.pdf>
6. This is actually a report, not a book, from the National Research Council. Issues for Science and Engineering Researchers in the Digital Age.
<https://www.nap.edu/read/10100/chapter/1>
7. [National Academies of Sciences, Engineering, and Medicine. 2018. *The Next Generation of Biomedical and Behavioral Sciences Researchers: Breaking Through*. Washington, DC: The National Academies Press.https://doi.org/10.17226/25008.](https://doi.org/10.17226/25008)

Responsible Conduct of Research

1. Mwaka, E. S. (2017). Responsible conduct of research: enhancing local opportunities. *African Health Sciences*, 17(2), 584-590.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5637046/pdf/AFHS1702-0584.pdf>
2. DuBois, J. M. and Dueker, J. M. (2009). Teaching and Assessing the Responsible Conduct of Research: A Delphi Consensus Panel Report. *Journal of Research Administration*, 40(1), 49-70. <https://pubmed.ncbi.nlm.nih.gov/22500145/>
3. Landeweerd, L. (2015). Reflections on different governance styles in regulating science: a contribution to 'Responsible Research and Innovation'. *Life Sciences, Society and Policy* (2015) 11:8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4531116/>
4. Kalichman, M. (2016). Responsible Conduct of Research Education (What, Why, and Does It Work?). *Academic Medicine*, 91(12), e10.
<https://doi.org/10.1097/ACM.0000000000001442>
5. Antes, A. L., et al. (2010). Evaluating the Effects That Existing Instruction on Responsible Conduct of Research Has on Ethical Decision Making. *Academic Medicine*, 85(3), 519-526. <https://pubmed.ncbi.nlm.nih.gov/20182131/>
6. Simon, C., et al. (2019). Implementation of a responsible conduct of research education program at Duke University School of Medicine. *Accountability in Research*, 26(5), 288-310. <https://pubmed.ncbi.nlm.nih.gov/31155934/>
7. Schaller-Demers, D. S. (2015). Responsible Conduct of Research: Not Just for Researchers. *The Journal of Research Administration*, 46(1), 63-76.
<https://files.eric.ed.gov/fulltext/EJ1156088.pdf>
8. Edsall, J. T. (1978). Scientific Freedom and Responsibility: Report of the AAAS Committee on Scientific Freedom and Responsibility. *Science*, 188(4189), 687-693.

<https://www.science.org/doi/10.1126/science.11643270>

Equity, Diversity, and Inclusion in Research

1. Stuhlfauth, S., et al. (2019). Users' and researchers' construction of equity in research collaboration. *Health Expectations*, 23(2), 296–305. **(Research article)**.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7104651/>
2. Ahmad, A. S., et al. (2019). Evidence-Based Strategies for Improving Diversity and Inclusion in Undergraduate Research Labs. *Frontiers in Psychology*, 10, 1305.
<https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01305/full>
3. Starfield, B. (2004). Promoting Equity in Health Through Research and Understanding. *Developing World Bioethics*, 4(1):76-95. **(Do not have article)**
<https://pubmed.ncbi.nlm.nih.gov/15086375/>

Reproducibility in Research

1. Begley, C. G. and Ioannidis, J. P. A. (2015). Reproducibility in science: improving the standard for basic and preclinical research., *Circulation Research*, 116(1), 116-26.
<https://pubmed.ncbi.nlm.nih.gov/25552691/>
2. Miyakawa, T. (2020) No raw data, no science: another possible source of the reproducibility crisis. *Molecular Brain*, 13:24.
<https://molecularbrain.biomedcentral.com/articles/10.1186/s13041-020-0552-2>
3. Eisner, D. A. (2018). Reproducibility of science: Fraud, impact factors and carelessness. *Journal of Molecular and Cellular Cardiology*, 114, 364-368.
<https://pubmed.ncbi.nlm.nih.gov/29079076/>
4. Gaudart, J., Huiart, L., Milligan, P. J., Thiebaut, R., & Giorgi, R. (2014). Reproducibility issues in science, is P value really the only answer? *Proceedings of the National Academy of Sciences*, 111(19), E1934-E1934. <https://doi.org/10.1073/pnas.1323051111>
5. Peng, R. (2015). The reproducibility crisis in science: A statistical counterattack. *Significance*, 12(3), 30-32. <https://doi.org/10.1111/j.1740-9713.2015.00827.x>
6. Resnik, D. B., & Shamoo, A. E. (2017). Reproducibility and Research Integrity. *Accountability in research*, 24(2), 116–123.
<https://doi.org/10.1080/08989621.2016.1257387> (do not have the article)
7. An G. (2018). The Crisis of Reproducibility, the Denominator Problem and the Scientific Role of Multi-scale Modeling. *Bulletin of mathematical biology*, 80(12), 3071–3080.
<https://doi.org/10.1007/s11538-018-0497-0>
8. Freedman, L. P., et al. (2015). The Economics of Reproducibility in Preclinical Research. *PLoS Biology*, 13, e1002165.
<https://journals.plos.org/plosbiology/article/file?id=10.1371/journal.pbio.1002165&type=printable>
9. Samuel, S. and Konig-Ries, B. (2021). Understanding experiments and research practices for reproducibility: an exploratory study. *PeerJ*, 9:e11140.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8067906/>
10. Byrd, J. B., et al. (2020). Responsible, practical genomic data sharing that accelerates research. *Nature Reviews Genetics*, 21(10), 615–629.
<https://www.nature.com/articles/s41576-020-0257-5>

Animal research

Responsible conduct of research with animals

1. Savla, U. (2003). Responsible conduct in animal research. *The Journal of clinical investigation*, 112(10), 1456-1456.
https://www.jci.org/articles/view/20394?utm_campaign=cover-page&utm_content=short_url&utm_medium=pdf&utm_source=content
2. Festing, S and Wilkinson R. (2007). The ethics of animal research, 8(6), 526-530.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2002542/>
3. Hettinger, E. C. (1989). The responsible use of animals in biomedical research. *Between the Species*, 5(3), 3.
https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/scholar?hl=en&as_sdt=0%2C37&q=responsible+use+of+animals+in+research+&btnG=&httpsredir=1&article=1516&context=bts
4. Naderi, M. M., Sarvari, A., Milanifar, A., Boroujeni, S. B., & Akhondi, M. M. (2012). Regulations and ethical considerations in animal experiments: international laws and islamic perspectives. *Avicenna journal of medical biotechnology*, 4(3), 114–120. **(Note: talks about ethics related to religion)** <https://pubmed.ncbi.nlm.nih.gov/23407588/>
5. Cesarani, A. and Pulina, G. (2021). Farm Animals Are Long Away from Natural Behavior: Open Questions and Operative Consequences on Animal Welfare. *Animals*, 11(3), 724.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8001272/pdf/animals-11-00724.pdf>
6. Everitt, J.I. and Berridge, B.R. (2017). The Role of the IACUC in the Design and Conduct of Animal Experiments that Contribute to Translational Success. *ILAR Journal*, 58(1), 129-134. <https://academic.oup.com/ilarjournal/article/58/1/129/4040991>
7. Do, J. P., et al. (2020). Automated and Continuous Monitoring of Animal Welfare through Digital Alerting. *Comparative Medicine*, 70(4), 313-327. **(NOTE: research article)** <https://www.ingentaconnect.com/content/aalas/cm/2020/00000070/00000004/art00001;jsessionid=msvpmi9hk519.x-ic-live-0120-responsible20conduct#>
8. Fiorito, G., et al. (2014). Cephalopods in neuroscience: regulations, research and the 3Rs. *Invertebrate neuroscience*, 14, 13-36.
<https://link.springer.com/article/10.1007/s10158-013-0165-x>
9. Hawkins, P., et al. (2016). A Good Death? Report of the Second Newcastle Meeting on Laboratory Animal Euthanasia. *Animals*, 6, 50.
<https://pubmed.ncbi.nlm.nih.gov/27563926/>

History of animals in research

1. Kinter, L. B., DeHaven, R., Johnson, D. K., & DeGeorge, J. J. (2021). A Brief History of Use of Animals in Biomedical Research and Perspective on Non-Animal Alternatives. *ILAR journal*.
<https://academic.oup.com/ilarjournal/advance-article-abstract/doi/10.1093/ilar/ilab020/6309345>
2. Hajar R. (2011). Animal Testing and Medicine. *Heart Views*, 12(1), 42-43.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3123518/>
3. Franco N. H. (2013). Animal Experiments in Biomedical Research: A Historical Perspective. *Animals : an open access journal from MDPI*, 3(1), 238–273.
<https://doi.org/10.3390/ani3010238>

4. Ericsson, A.C., et al. (2013). A Brief History of Animal Modeling. *Missouri Medicine*, 110(3), 201-205. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3979591/>
5. Horner, J. and Minifie, F. D. (2011). Research Ethics I: Responsible Conduct of Research (RCR)—Historical and Contemporary Issues Pertaining to Human and Animal Experimentation. *Journal of Speech, Language, and Hearing Research*. 54, S303-S329. [https://pubs.asha.org/doi/10.1044/1092-4388\(2010/09-0265\)?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed](https://pubs.asha.org/doi/10.1044/1092-4388(2010/09-0265)?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed)
6. Lees, P., et al. (2020). A history of antimicrobial drugs in animals: Evolution and Revolution. *Journal of Veterinary Pharmacology and Therapeutics*, 44, 137-171. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jvp.12895>
7. Hoberman, A. (2013). What Factors Influence Parental Decisions to Participate in
8. Clinical Research: Consenters versus Non-consenters. *JAMA Pediatrics*, 167(6): 561–566. <https://pubmed.ncbi.nlm.nih.gov/23546617/>

Human Research

Responsible conduct of research with humans

1. Mandal, J., et al. (2011). Ethics in human research. *Tropical Parasitology*, 1(1), 2-3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3593469/?report=printable>
2. Sharp, R. R., et al. (2015). Research Ethics Consultation: Ethical and Professional Practice Challenges and Recommendations. *Academic Medicine*, 90(5): 615–620. https://journals.lww.com/academicmedicine/Fulltext/2015/05000/Research_Ethics_Consultation_Ethical_and.22.aspx
3. Al-Khatib, A., & Kalichman, M. (2019). Responsible conduct of human subjects research in islamic communities. *Science and engineering ethics*, 25(2), 463-476. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6310657/>
4. Grant, R. W., & Sugarman, J. (2004). Ethics in human subjects research: do incentives matter? *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine*, 29 (6), 717-738. <https://doi.org/10.1080/03605310490883046> **(Do not have original article)**
5. Kapp M. B. (2006). Ethical and legal issues in research involving human subjects: do you want a piece of me?. *Journal of clinical pathology*, 59(4), 335–339. <https://doi.org/10.1136/jcp.2005.030957>
6. Hyun, I., et al. (2020). Ethical issues related to brain organoid research. *Brain Research*, 1732, 146653. <https://pubmed.ncbi.nlm.nih.gov/32017900/>
7. Vavgird, D. R. (2007). Prevention over Cure: The Administrative Rationale for Education in the Responsible Conduct of Research. *Academic Medicine*, 82(9), 835-837. <https://pubmed.ncbi.nlm.nih.gov/17726386/>
8. Constantin, A. (2018). Human Subject Research: International and Regional Human Rights Standards. *Health and Human Rights Journal*, 20(2), 137-148. <https://pubmed.ncbi.nlm.nih.gov/30568408/>

History of research in humans

1. White, M. G. (2020). Why Human Subjects Research Protection Is Important. *The Ochsner Journal*, 20(1): 16–33. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7122250/>

2. Rice, T. W. (2008). The historical, ethical, and legal background of human-subjects research. *Respiratory care*, 53(10), 1325-1329. <http://rc.rcjournal.com/content/respcare/53/10/1325.full.pdf>
3. Bhatt, A. (2010). Evolution of clinical research: a history before and beyond james lind. *Perspectives in clinical research*, 1(1), 6–10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3149409/>
4. Shuster, E. (1997). Fifty years later: the significance of the Nuremberg Code. *New England of Medicine*, 337(20), 1436-1440. <https://pubmed.ncbi.nlm.nih.gov/9358142/>

Authorship

1. Guidelines from ICMJE: <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>
2. Resnik, D. B. (2016). Authorship policies of scientific journals. *Journal of Medical Ethics*, 42(3): 199–202. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4769679/>