

Responsible Conduct of Research (RCR)

# **RCR Education Resource Bibliography**

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# 1. Training & Education

## A. Comprehensive on-line programs & courses

American Association for the Advancement of Science. Integrity in Scientific Research. <http://www.aaas.org/spp/video/>. Valid link, February, 2004; last updated: n.d.

[V]ideos and [a] Discussion and Resource Guide [that] are designed to help improve the ability of scientists, post-doctoral fellows, undergraduate and graduate students, administrators, and technicians to develop informed and well-reasoned responses to ethical issues that arise in scientific research. These materials include five "trigger" videos, short dramatizations aimed at provoking discussion on a series of ethical issues confronting various participants in the research process, and this Discussion and Resource Guide. [site]

California State University. Long Beach. Responsible Conduct of Research Orientation Program. <http://www.csulb.edu/~research/rcr.htm>. Valid link, February, 2004; last updated: 2002.

On-line RCR training program that covers: human subjects; animal care and use, research misconduct, and conflict of interest. [ed]

Medical College of Ohio. Training. <http://www.mco.edu/research/training.html>. Valid link, February, 2004; last updated: January 5, 2002.

Comprehensive site with extensive information and links to other sites. Offers three basic modules for MCO staff only: Animal Research, Protection of Human Research Subjects, and Responsible Conduct of Research. [ed]

North Carolina State University. Instructional Modules in Research Ethics.

<http://www.fis.ncsu.edu/Grad/ethics/>. Valid link, February, 2004; last updated: n.d.

Includes modules on: introduction to the modules, research ethics: an introduction, responsible authorship and peer review, the mentoring of graduate students, animal subjects in research, professional responsibility and codes of conduct, human participants in research, rightdoing and misconduct in research, intellectual property - copyright, ethical issues in the use of statistics, science and the media: ethical issues. [ed]

Oklahoma State University. Training Opportunities. Valid link, February, 2004; last updated: n.d.

Includes modules on: institutional review board, institutional animal care and use, radiological safety training, biosafety, and laser safety. [ed]

Oregon Health & Science University. Research Development & Administration. Responsible Conduct of Research Education.

<http://www.ohsu.edu/research/rda/rcr.shtml>. Valid link, February, 2004; last updated: October 29, 2003.

Includes modules on: contracts, conflict of interest, and conflict of commitment; sponsored projects; scientific integrity; intellectual property; research with RDNA and/or viral vectors; animal research; human subjects research; infectious material shipping; and completion of the training. [ed]

Stanford University. Principal Investigator Responsibilities at Stanford University.

<http://www.stanford.edu/dept/DoR/PIship/>. Valid link, February, 2004; last updated n.d.

Designed primarily for new researchers, contains pages/modules and tests that cover: Responsible conduct of research; Environmental Health & Safety; Protection of Research Subjects [human and animal]; Conflicts of Interest; Publication, Data and Intellectual Property; Scientific Integrity; Financial Management; The Cost Principles: OMB Circular A-21; Award Terms and Conditions; Administrative Salaries and Other Clerical Expenses; Effort and Salaries; Documenting Allocability;

Monitoring Project Spending; Equipment; Project Closeout; and Resources: Who to call, where to look. [ed]

University of Alaska Fairbanks. Scientific Integrity: A Program in the Responsible Conduct of Research. <http://www.uaf.edu/ori/rcr/index.htm>. Valid link, February, 2004; last updated: November 6, 2002.

This auto-tutorial educational program, Scientific Integrity, provides a broad overview of the core areas considered important for the Responsible Conduct of Research. [site]

Program contains modules on: data acquisition, management, sharing and ownership; mentor/trainee relationships; publication practices and responsible authorship; peer review; collaborative science; human subjects; research involving live vertebrates; research misconduct; conflict of interest and commitment. [ed]

University of California. San Diego. Scientific Integrity: An On-line Course in Responsible Conduct of Research. <http://ethics.ucsd.edu/courses/integrity/resources.html>. Valid link, February, 2004; last updated n.d.

This course is designed to cover a range of topics typically included in instruction about responsible conduct of research. Although it is intended to be appropriate to meet NIH training grant requirements for such instruction, it is up to the individual Program Director and his/her funding institute to determine whether this form of instruction will meet those requirements. [site]

Topics covered include: UCSD Research Ethics Program, UCSD Human Research Protections Program, UCSD Animal Subjects Program, and UCSD Conflicts of Interest Office. [ed]

University of Michigan. Office of the Vice President for Research. Program for Education and Evaluation in Responsible Research and Scholarship ( PEERRS ). <http://www.research.umich.edu/training/peerrs.html>. Valid link, February, 2004; last updated: n.d.

PEERRS is a web-based foundational instruction and certification program for members of the University community engaged in or associated with research. All UM faculty, staff and students are invited to use the modules and certification tests to improve their knowledge and awareness of responsible research practices. [site]

Modules include: foundations of responsible research conduct, research administration, conflict of interest, human research, and animal research. [ed]

University of Minnesota. Office of the Vice President for Research and Dean of the Graduate School. Teaching Ethics for Research, Scholarship, & Practice. <http://www.research.umn.edu/ethics/curriculum.html>. Valid link, February, 2004; last updated: January 14, 1999.

This site is a compendium of resources pertinent to the teaching of ethical conduct in research and scholarship. At its core is a database that provides quick access to instructional materials designed for use in the classroom. The materials are categorized by ethical issue, discipline, and format. [site]

As for February 2002, site worked best with older browsers. It is currently being updated. Active training modules include: history and values relating to research and scholarship; social responsibility--scientific fraud [&]reporting misconduct; authorship; plagiarism; peer review; research data management; intellectual property; conflict of interest; environmental health and safety; animal subjects; human subjects. [ed]

University of Nebraska Medical Center. Research Ethics. Valid link, February, 2004; last updated: January 19, 2000.

This course has adopted the problem-based approach to ethics instruction because discussion of cases permits discussants to explore their own personal value systems, frame particular problems within those systems, and compare their responses with those of others. To complete course, the students go

through and respond to each of the problems in each area. There are 50 problems across the 10 topic areas. [site]

Topics covered include: experimental design and data collection, processing and publication, conflict-of-interest, use of human subjects in research, use of animals in research, copyrights, licenses and patents, use of funds and property, teacher-student interactions, harassment, university-industry relationships, appropriate responses to perceived misconduct. [ed]

University of New Hampshire. Responsible Conduct of Research.

<http://www.unh.edu/rcr/>. Valid link, March, 2004; last updated: n.d.

Contains modules on: introduction [to RCR], human subjects, animal subjects, authorship, misconduct, data management, conflict of interest, hazardous materials, mentoring, peer review, and collaborative research. [ed.]

University of Pennsylvania. Office of the Vice-Provost for Research. Services for researchers: Responsible Conduct of Research. <http://www.upenn.edu/research/rcr/>. Valid link, last updated n.d.

For convenience, we have divided RCR into thirteen areas for education, training, certification, and compliance. [site]

Modules include: introduction; data acquisition, management, sharing, and ownership; materials, their ownership, and material transfer agreements; intellectual property, copyrights, patents, licenses, and technology transfer; authorship and publication practices; peer review; mentor/trainee responsibilities, and collaborative science; human subjects; research involving animals; environmental safety: radiation, chemicals, and microbial agents; research misconduct; conflict of interest; preparing grant proposals; research administration: financial and personnel management. [ed]

University of Pittsburgh. Education & Certification Program in Research & Practice Fundamentals (RPF). <http://rpf.health.pitt.edu>. Valid link, February, 2004; last updated: n.d.

The Education and Certification Program in Research & Practice Fundamentals (RPF) is the result of an observed need for the University of Pittsburgh to develop an on-line education and certification program in the fundamentals of research. The RPF program has been designed to provide training to individuals at the University of Pittsburgh, and its affiliated institutions, who wish to participate in research activities. [site]

Modules include: research integrity; human subjects research; use of laboratory animals in research & education; conflict of interest; human embryonic & fetal stem cell research; HIPPA researchers privacy requirements; HIPPA staff privacy awareness training. [ed]

University of Texas at Arlington. Office of Research. Compliance Training Modules Available Online. [http://compliance.uta.edu/training/practice\\_presentation.php](http://compliance.uta.edu/training/practice_presentation.php). Valid link, February, 2004; last updated: 2004.

Contains modules on: confidential information, accuracy of records, and retention and disposal of records; contacts with the media, government and outside investigators; contracts, agreements & purchasing; copyright and intellectual property; effectively controlling risks; fair labor standards act & family medical leave act; fraud, errors and omissions; outside employment and financial interests; human subjects involved in research: tier I; introduction to the UTA institutional compliance program; political activities & contributions; gifts & gratuities; responsibility, safeguarding, & disposing of university property; sexual harassment, sexual misconduct, & equal employment opportunities; use of state property; computers: security and use; internet policy; workplace health and safety and drug free workplace; endowments; health insurance portability and accountability act (HIPAA); human subjects involved in research: tier II. [ed]

Wayne State University. Responsible Conduct in Research On-Line Training Program. <http://www.hic.wayne.edu/>. Valid link, February, 2004; last updated: n.d.

Contains modules on: vertebrate animals, human participants, and research misconduct. Some features are available only to Wayne State staff, but anyone with an email address can access the main training material. [ed]

## **B. Focused on-line programs & courses**

Roig, M. Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing. <http://facpub.stjohns.edu/~roigm/plagiarism/>. Valid link, March, 2004; last updated: under construction.

The Office of Research Integrity (ORI), in recognizing the importance of education in the responsible conduct of research (RCR), began sponsoring in 2002 the creation of instructional resources to address this need. The present guide on avoiding plagiarism and other inappropriate writing practices was created, in part, to meet this need. Its purpose is to help students, as well as professionals, identify and prevent such practices and to develop an awareness of ethical writing. This guide is one of the many products stemming from ORI's educational initiatives in the RCR. [site]

Content includes: On ethical writing, plagiarism, self plagiarism, the lesser crimes of writing, paraphrasing/plagiarism exercise, references, and acknowledgements. [ed.]

University of Indiana. School of Education. Understanding Plagiarism. <http://education.indiana.edu/~frick/plagiarism/>. Valid link, June 30, 2003; last updated: September 17, 2002.

Two on-line modules on plagiarism. 1) A short quiz with immediate feedback to test understandings of plagiarism based on the Indiana University definition, and 2) a longer tutorial with cases and tests that explore different types of plagiarism. [ed.]

Association for Research Integrity. RCR Online Program. <http://www.phstrainer.com/>. Valid link: March 2004; last updated: n.d.

The Association for Research Integrity provides administrators of Institutional Review Boards and Institutional Animal Care and Use Committees with an Online Instruction Program that documents compliance with the PHS policy on Instruction in the Responsible Conduct of Research. Human Subject Assurance training is also available to IRB officials. Institutional and individual accounts are available. [site]

CITI. CITI Collaborative IRB Training Initiative.

[http://jaguar.ir.miami.edu/~citireg/citi\\_information.html](http://jaguar.ir.miami.edu/~citireg/citi_information.html). Valid link, February, 2004; last updated: n.d.

The CITI program site provides a comprehensive selection of educational modules that can be used to satisfy institutional instructional mandates in The Protection of Human Research Subjects. The Modules include: 17 basic modules focused on biomedical research, 11 basic modules focused on Social and Behavioral research, and Continuing Education (CE) modules for biomedical researchers who have completed the basic modules [site]

Family Health International. Research Ethics Training Curriculum.

<http://www.fhi.org/en/RH/Training/trainmat/ethicscurr/index.htm>. Valid link, February, 2004; last updated.

FHI developed the Research Ethics Training Curriculum for international scientists who conduct research that includes human participants and who want to incorporate fundamental ethical considerations in the design and implementation of their studies. [site] Modules are available in English, French and Spanish. [ed]

Indiana University PUI and Indiana University Bloomington. Responsible Conduct of Research. <http://www.indiana.edu/~rcr/>. Valid link, February, 2004; last updated: February 6, 2003.

A site developed to meeting anticipated training requirements for the responsible conduct of research. Current training limited to human-subjects research and includes: basic training, a test, and survey for comments. [ed]

National Institutes of Health. Human Participant Protections Education for Research Teams. <http://cme.nci.nih.gov>. Valid link, February, 2004; last updated: n.d.

As part of its commitment to the protection of human participants, the NIH has developed this tutorial: "Human Participant Protections: Education for Research Teams." This course offers one option to fulfill the obligation for education in the area of human participant protection. [site]

Available to NIH staff only. [ed]

National Institutes of Health. Clinical Research Training, National Institutes of Health. <http://www.nihtraining.com/cc/crt/indexvideo.html>. Valid link, February, 2004; last updated: n.d.

Available to NIH staff only. [ed]

Office for Human Research Protections. Human Subject Assurance Training. [http://137.187.172.152/cbttng\\_ohrp/cbts/assurance/newuserreg\\_1.asp](http://137.187.172.152/cbttng_ohrp/cbts/assurance/newuserreg_1.asp). Valid link, February, 2004; last updated: n.d.

The Institutional Official who signs the FWA, Chair of the Institutional Review Board (IRB), and the Human Protections Administrator primary contact at the institution must understand the responsibilities involved in an institutional program of human subject protection.

The purpose of this tutorial is to explain these responsibilities, as well as the informed consent process. OHRP recommends completion of the modules before an FWA is submitted to OHRP. [site]

Tulane University Medical Center. Ethical Conduct of Human Subject Research: A Computer-based Learning Program for Investigators.

<http://www.som.tulane.edu/irb/program/>. Valid link, 1/28, 2002; last updated: n.d.

This program is designed as an educational resource for investigators using human subjects at Tulane. The purpose is to optimize the protection of subjects, investigators, and the University. [site]

The program consists of about 100 slides that provide lesson on: multiple project assurance, roles and responsibilities, cases, and history. [ed]

North Carolina State University. Contemporary Science, Values and Animal Subjects in Research. <http://www4.ncsu.edu/~jherkert/ori/>. Valid link, March, 2004; last updated: under construction.

This site, developed at North Carolina State University, is an Office of Research Integrity (ORI) sponsored project. It is intended to be both a learning tutorial and a clearing house. Ethics and the use of animals in research is an enormous topic: this site is an introduction both to the central issues and the information resources available. The format is the same throughout each Tutorial; an essay with numerous links to further websites. Think of the essay as an extended annotated bibliography, with the written text suggesting connections between the online materials. Study Questions found at the end of each Tutorial or section of a Tutorial in Part I: Ethics and Part III: Mini-Lessons are intended either for self study or for group or class/lab use at your institution. This site is under construction and continually being revised; please inform the authors of any questions, concerns, or glitches. [site]

Howard Hughes Medical Institute. Knowing How to Practice Safe Science.

<http://www.practicingsafescience.org/>. Valid link, February, 2004; last updated: n.d.

On-line course on laboratory safety. [ed.]

Practicing safe science is everybody's business. It is a matter of teamwork and personal responsibility. This course provides practical guidance to help you do your part to demonstrate that safe science and good science are inseparable. [site]

## **C. In-person training & education**

Kessin, R and Rubin, JS. Responsible Conduct of Research and Related Policy Issues. <http://cpmcnet.columbia.edu/research/rcr-crse.htm>. Valid link, February, 2004; last updated: n.d.

DESCRIPTION: This course explores a variety of ethical and policy issues that arise during the conduct of basic and clinical scientific research. Topics covered include: (1) authorship practices in scientific publications; (2) human subjects and scientific research; (3) scientists as citizens; (4) scientific misconduct; (5) data sharing and data secrecy; (6) intellectual property and technology transfer; (7) social and ethical implications of genetic technologies; (8) the use of laboratory animals in scientific research; and (9) conflicts of interest arising from scientists acting as policy consultants and experts. Course sessions will include lectures, discussion periods, and analyses of case studies. [site]

Vanderbilt University Medical Center. Training in Survival Skills, Communication Skills and Responsible Conduct of Research.

[http://bret.mc.vanderbilt.edu/bret/html/rcr\\_training.htm](http://bret.mc.vanderbilt.edu/bret/html/rcr_training.htm). Valid link, February, 2004; last updated: July 23, 2003.

The survival and communication skills and RCR are presented in a two day retreat taken by graduate students during the IGP year, and by MD/PhD students at any time during the first three years of the Medical Scientist Training Program, and at no later time than the G1 phase of their career. The Retreat meets for two days. Although students register for zero hour credit, attendance is mandatory and successful completion is obligatory for graduation in all participating departments of the IGP and MSTP. [site]

Topics covered include: keeping a laboratory notebook; ethical use of animals in research; institutional policies regarding misconduct in science and conflicts of interest; ethical issues surrounding writing, reviewing and administering grants; ethical, legal and social issues surrounding the human genome project; ethics of scientific publishing; ethical considerations in research involving human subjects. [ed]

## **D. Train-the trainer programs**

Indiana University Bloomington. Teaching Research Ethics.

<http://poynter.indiana.edu/tre.html>. Valid link, February, 2004; last updated: January 13, 2004.

The workshop has the potential to have a significant impact on universities throughout the country, affecting faculty, students, and the institutions as a whole. Faculty participating in the workshop will be able to design syllabi or course units integrating substantive issues in research ethics and will gain competence and confidence in teaching research ethics. Students of participating faculty will develop better moral reasoning skills and will be better able to recognize and act on ethical issues. Institutions of participating faculty will build a greater commitment to, and expertise and history in, incorporating research ethics in science curricula. [site]

Public Responsibility in Medicine and Research. Responsible Conduct of Research (RCR) 101. Valid link, February, 2004; last updated: n.d.

RCR 101 is a one-day workshop designed to help institutions and organizations promote effective RCR instruction. RCR 101 consists of lectures and exercises to demonstrate tools for teaching, and identification of RCR resources. The focus of RCR 101 is to review and discuss the goals, content, format, and tools for instruction for all of the core areas of normative behavior in science. The workshop includes experience with a variety of useful methods and tools, with a particular emphasis on case discussion. During a working lunch, a demonstration lecture is presented to illustrate one approach to teaching a selected topic in RCR. On completion of RCR 101, participants should be prepared to implement a practical and effective program of RCR instruction for their home institutions. Participants receive a printed resource syllabus as part of RCR 101 training. [site]

University of Pittsburgh. Survival Skills & Ethics Program. Workshop: Teach.  
<http://www.edc.gsph.pitt.edu/survival/teach2.html>. Valid link, February, 2004; last updated: n.d.

We offer an annual trainer-of-trainers workshop on Teaching Survival Skills and Ethics. This workshop is designed for individuals who want to establish a course in survival skills and/or ethics at their institution. Throughout the workshop, special emphasis is placed on the topics of integrating instruction in ethics throughout the curriculum, providing information on expanding job opportunities for our students, and discussions on improving institutional climate. [site]

## 2. Resources

A partial list of textbooks, general articles on RCR education, and the nine core areas

### A. Textbooks

- Association for Practical and Professional Ethics (1996 ff.). *Research Ethics: Cases and Commentaries*. Bloomington, IN, APPE.
- Barnbaum, DR and Byron, M (2001). *Research Ethics: Text and Readings*. Upper Saddle River, N.J., Prentice Hall.
- Beach, D (1996). *The Responsible Conduct of Research*. New York, VCH Publishers.
- Bulger, RE, Heitman, E, et al. (2002). *The Ethical Dimensions of the Biological and Health Sciences*. Cambridge, U.K. ; New York, Cambridge University Press.
- Burroughs Wellcome Fund and Howard Hughes Medical Institute (2004). *Making the Right Moves: A practical guide to Scientific Management for Postdocs and New Faculty*. Chevy Chase, MD: HHMI.
- Elliott, D and Stern, JE (1997). *Research Ethics: A Reader*. Hanover, NH, Published by University Press of New England for the Institute for the Study of Applied and Professional Ethics at Dartmouth College.
- Grinnell, F (1992). *The Scientific Attitude*. New York, The Guilford Press.
- Korenman, SG and Shipp, AC (1994). *Teaching the Responsible Conduct of Research Through a Case Study Approach: A Handbook for Instructors*. Washington, D.C., Association of American Medical Colleges.
- Macrina, FL (2000). *Scientific Integrity: An Introductory Text with Cases*. Washington, DC, ASM Press.
- Penlar, RL (1995). *Research Ethics: Cases and Materials*. Bloomington, Indiana University Press.
- Resnik, DB (1998). *The Ethics of Science: An Introduction*. London; New York, Routledge.
- Shamoo, AE and Resnik, DB (2003). *Responsible Conduct of Research*. New York, Oxford University Press.
- Sigma Xi (1999). *The Responsible Researcher: Paths and Pitfalls*.
- Steneck, NH and Zinn, D (2004). *ORI Introduction to the Responsible Conduct of Research*. Washington, D.C., Health and Human Services.
- Stern, JE and Elliott, D (1997). *The Ethics of Scientific Research: A Guidebook for Course Development*. Hanover, NH, University Press of New England.
- Wells, FO, Lock, S, et al. (2001). *Fraud and Misconduct in Biomedical Research*. London, BMJ Books.

## **B. Additional Reading**

### **1. Responsible Conduct and RCR Education**

- Bebeau, MJ and Holt, SC (1996). "Proceedings of a symposium, toward responsible research conduct: the role of scientific societies." *J Dent Res* 75(2): 823-4.
- Bernstein, D (1999). "American Pediatric Society/Society for Pediatric Research code of responsible conduct of research." *Pediatr Res* 45(5 Pt 1): 613-4.
- Bird, SJ (2001). "Mentors, advisors and supervisors: their role in teaching responsible research conduct." *Sci Eng Ethics* 7(4): 455-68.
- Bird, SJ and Sprague, RL (2001). "Mentoring and the responsible conduct of research: reflections and future." *Sci Eng Ethics* 7(4): 451-3.
- Bivens, LW (1991). "Responsible conduct of research." *Asha* 33(9): 34-6.
- Brown, S and Kalichman, MW (1998). "Effects of Training in the Responsible Conduct of Research: A Survey of Graduate Students in Experimental Sciences." *Science and Engineering Ethics* 4(4): 487-498.
- Bulger, RE (1994). "Toward a statement of the principles underlying responsible conduct in biomedical research." *Acad Med* 69(2): 102-7.
- Cassidy, MM (2000). "Introduction: Forum on Responsible Conduct in Biomedical Research." *Proc Soc Exp Biol Med* 224(4): 203-4.
- Davis, T (1996). "Responsible conduct in research: recent policy developments in the area of research integrity." *Can J Cardiovasc Nurs* 7(2): 21-4.
- Eastwood, S, Derish, P, et al. (1996). "Ethical Issues in Biomedical Research: Perceptions and Practices of Postdoctoral Research Fellows Responding to a Survey." *Science and Engineering Ethics* 2(1): 89-114.
- Fischer, BA and Zigmond, MJ (2001). "Promoting responsible conduct in research through "survival skills" workshops: some mentoring is best done in a crowd." *Sci Eng Ethics* 7(4): 563-87.
- Frankel, M and Bird, S (2003). "Introduction: The Role of Scientific Societies in Promoting Research Integrity." *Science and Engineering Ethics* 9(2): 139-140.
- Frankel, MS (2000). "Scientific societies as sentinels of responsible research conduct." *Proc Soc Exp Biol Med* 224(4): 216-9.
- Friedman, PJ (1993). "Standards for authorship and publication in academic radiology. Association of University Radiologists Ad Hoc Committee on Standards for the Responsible Conduct of Research." *Radiology* 189(1): 33-4.
- (1993). "Standards for authorship and publication in academic radiology. AUR Ad Hoc Committee on standards for the responsible conduct of research." *Invest Radiol* 28(10): 879-81.
- Frugoli, JA (2001). "Commentary on 'mentors, advisors and supervisors: their role in teaching responsible research conduct': it really does take a village." *Sci Eng Ethics* 7(4): 469-70.
- Grinnell, F (1999). "Ambiguity, trust, and the responsible conduct of research." *Sci Eng Ethics* 5(2): 205-14.
- Hoshiko, T (1993). "Responsible conduct of scientific research: a one-semester course for graduate students." *Am J Physiol* 264(6 Pt 3): S8-10.
- Ingham, JC (2003). "Research ethics 101: the responsible conduct of research." *Semin Speech Lang* 24(4): 323-37.

- Kalichman, MW and Friedman, PJ (1992). "A Pilot Study of Biomedical Trainees' Perceptions Concerning Research Ethics." *Academic Medicine* 67(11): 769-775.
- King, J (1999). "The scientific endeavor is based on vigilance, not trust: commentary on "Ambiguity, trust, and the responsible conduct of research" (F. Grinnell)." *Sci Eng Ethics* 5(2): 215-7.
- Maloney, DM (2000). "New requirements for "responsible conduct of research" include human subjects area." *Hum Res Rep* 15(9): 1-2.
- Maloney, DM (2001). "Instruction in responsible conduct of research (RCR)." *Hum Res Rep* 16(1): 2-3.
- Mastroianni, AC and Kahn, JP (1998). "The importance of expanding current training in the responsible conduct of research." *Acad Med* 73(12): 1249-54.
- (1999). "Encouraging accountability in research: a pilot assessment of training efforts." *Account Res* 7(1): 85-100.
- National Institutes of Health. Intramural Research Sourcebook.  
<http://www1.od.nih.gov/oir/sourcebook/>. Valid link, June 30, 2003; last updated.
- Offenbach, SI (2001). "Survival is not all there is to worry about. Commentary on 'Promoting responsible conduct in research through "survival skills" workshops' (Fischer and Zigmond)." *Sci Eng Ethics* 7(4): 589-91.
- Pimple, KD (2002). "Six domains of research ethics. A heuristic framework for the responsible conduct of research." *Sci Eng Ethics* 8(2): 191-205.
- Rhoades, LJ (2002). "Beyond conflict of interest: the responsible conduct of research." *Sci Eng Ethics* 8(3): 459-68.
- Richman, KA (2002). "Responsible conduct of research is all well and good." *Am J Bioeth* 2(4): 61-2.
- Sachs, GA and Siegler, M (1993). "Teaching scientific integrity and the responsible conduct of research." *Acad Med* 68(12): 871-5.
- Savla, U (2003). "Responsible conduct in animal research." *J Clin Invest* 112(10): 1456.
- Whitbeck, C (1998). *Ethics in Engineering Practice and Research*. Cambridge; New York, Cambridge University Press.
- (2001). "Group mentoring to foster the responsible conduct of research." *Sci Eng Ethics* 7(4): 541-58.
- Woolf, P (2001). "Trustworthy research. Commentary on 'Group mentoring to foster the responsible conduct of research'. (Whitbeck)." *Sci Eng Ethics* 7(4): 559-62.
- Zigmond, MJ (1999). "Promoting responsible conduct: striving for change rather than consensus. Commentary on "Ambiguity, trust, and the responsible conduct of research" (F. Grinnell)." *Sci Eng Ethics* 5(2): 219-28.

## **2. Research Misconduct**

- Baker, DR and Jackson, VP (2000). "Misrepresentation of publications by radiology residency applicants." *Acad Radiol* 7(9): 727-9.
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## **1. Organizations**

### **A. Government**

Office of Research Integrity. Homepage. <http://ori.hhs.gov/>. Valid link, February, 2004; last updated: March 3, 2004.

The Office of Research Integrity (ORI) promotes integrity in biomedical and behavioral research supported by the Public Health Service (PHS) at about 4,000 institutions worldwide. ORI monitors institutional investigations of research misconduct and facilitates the responsible conduct of research through educational, preventive, and regulatory activities. Organizationally, ORI is located in the Office of Public Health and Science (OPHS) within the Office of the Secretary of Health and Human Services (OS) . [site]

Extensive information is provided on: handling misconduct, programs, publications, resources, and policies, regulations and statutes. [ed.]

National Science Foundation. Office of Inspector General. Homepage. <http://www.oig.nsf.gov/>. Valid link, February, 2004; last update: n.d.

OIG is also responsible for: promoting economy, efficiency, and effectiveness in the administration of NSF programs and operations; preventing and detecting fraud, waste, abuse, and mismanagement in NSF programs and operations; commenting on legislation and regulations that affect NSF; preventing, detecting, and handling cases involving misconduct in science; and issuing Semiannual Reports to the Congress that describe OIG activities. [site]

National Institutes of Health. Office of Human Subjects Research. Homepage. <http://206.102.88.10/ohsr/site/>. Valid link, June 30, 2003; last updated: n.d.

The OHSR was established to help IRP investigators understand and comply with the ethical guidelines and regulatory requirements for research involving human subjects. OHSR's overall goal is to promote and support the IRP's efforts to conduct innovative research which protects the rights and promotes the welfare of human subjects. [site]

Office for Human Research Protections. Homepage. <http://ohrp.osophs.dhhs.gov/>. Valid link, February, 2004; last updated: February 17, 2004.

Responsible for overseeing human research subjects protections functions and related functions where research involves the use of human subjects. [site]

National Institutes of Health. Office of Laboratory Animals Welfare. Homepage. <http://grants2.nih.gov/grants/olaw/olaw.htm>. Valid link, February, 2004; last updated: n.d.

1) Develops and monitors, as well as exercises compliance oversight relative to PHS Policy on Humane Care and Use of Laboratory Animals involved in research conducted or supported by any

component of the Public Health Service; (2) coordinates appropriate PHS regulations, policies, and procedures both within PHS and in coordination with other Departments and Agencies in the Federal Government; and establishes criteria for and negotiation of Assurances of Compliance with institutions engaged in PHS-conducted or supported research using animals; (3) conducts programs of clarification and guidance for both the Federal and non-Federal sectors with respect to the use of animals in research; and directs the development and implementation of educational and instructional programs and generates educational resource materials; (4) evaluates the effectiveness of PHS policies and programs for the humane care and use of laboratory animals; and (5) serves as liaison to Presidential, Departmental, Congressional, interagency, and non-governmental Commissions and Boards established to examine issues pertaining to laboratory animal welfare in research and exercises leadership in identifying and addressing such issues. [site]

US Department of Agriculture. Animal Care Program. Homepage.

<http://www.aphis.usda.gov/ac/>. Valid link, February, 2004; last updated: n.d.

AC provides leadership in establishing acceptable standards of humane animal care and treatment and to monitor and achieve compliance with the Animal Welfare Act through inspections, education, and cooperative efforts.

## **B. Academic and Non-profit**

Columbia University. Faculty & Research: Bio & Medical Research Ethics.

<http://www.research.hs.columbia.edu/bio.htm>. Valid link, February, 2004; last updated.

Comprehensive list of resources with link. [ed.]

Harvard Pilgrim Health Care. Harvard Pilgrim Health Care Research Investigators' Handbook. <http://www.hmcnet.harvard.edu/ambulatory/handbook.html>. Valid link, April 7, 2003; last updated.

Table of Contents: Mission Statement, Covered Activities, Who Can Lead An Investigation at HPHC?, The Research Approval Process, Uses of HPHC Data That Result From Research, Inclusion of Women And Minorities, Confidentiality of Data, Conflict of Interest, Scientific Misconduct, Administrative Responsibilities, Indirect Costs, Corporate Sponsorship of Research, Contracts with Other Research Organizations, General Purpose Research/Educational Funds Policy, Standard Information. [site]

Michigan State University, GS. Responsible Conduct of Research: Research Integrity & Research Ethics Resources. <http://www.msu.edu/~biomed/rcr/>. Valid link, February, 2004; last updated: February 26, 2004.

Comprehensive list of resources and link as well as an on-line newsletter with articles in key RCR topics. [ed.]

North Carolina State University. Research Ethics Initiative.

<http://www.fis.ncsu.edu/Grad/ethics/>. Valid link, June 30, 2003; last updated.

In June 1998, a faculty committee appointed by the Graduate School dean devised a plan to integrate research ethics training throughout graduate curricula. Included are web information, lectures by exemplary researchers, biennial institutes for faculty, instructional modules, a Research Ethics Fellows program and formal seminars. The Graduate School received NSF funding in 1999 to implement the program. We invite you to explore and contribute your ideas. [site]

University of Arizona. Office of the Vice President of Research and Graduate Studies. Research Integrity Education. <http://vpr2.admin.arizona.edu/rie/>. Valid link, February, 2004; last updated: January 7, 2004.

Contains an extensive collection of newsletters that cover a wide range of RCR topics as well as links to additional resources. [ed]

University of California, Office of Research Affairs. Compliance.

<http://www.ora.ucr.edu/ORA/Compliance/Compliance.htm>. Valid link, February, 2004; last updated: n.d.

Basic compliance page providing links to policies and additional resources. [ed.]

University of Kentucky. Office of Research Integrity. Homepage.

<http://www.rgs.uky.edu/ori/>. Valid link, last updated: February 12, 2004.

The Office of Research Integrity (ORI) provides support for six federally mandated review committees, three Medical and a Nonmedical Institutional Review Board (IRB), the Institutional Animal Care and Use Committee (IACUC), and the Radioactive Drug Research Committee (RDRC). ORI also supports the institution in promoting ethical conduct of research and educating UK students and employees regarding research misconduct regulations. Copies of application forms, information on policies and procedures, and UK's Statements of Assurance can be obtained from ORI. [site]

University of Pittsburgh. Survival Skills & Ethics Program. Homepage.

<http://www.edc.gsph.pitt.edu/survival/>. Valid link, February, 2004; last updated: 2004.

Through [its] programs, [the Survival Skills & Ethics Program] encourage[s] the development of mechanisms for assisting members of the community in developing [a broad range of skills essential for becoming a successful research].

Local activities: This effort began about 15 years ago when we started to offer occasional workshops on a few survival skills. Over the years it has evolved into a series of eight workshops offered over the fall and spring terms. Discussions of responsible conduct are integrated into the instruction, as are issues of particular relevance to minorities and women.

Outreach activities: As time permits, we accept invitations to provide workshops at various institutions for students, faculty, or administrators. We also provide "trainer-of-trainers" workshops. These events focus on teaching faculty how to establish a course in survival skills and/or ethics at their institution. [site]

## C. Professional Organizations and Journals

Accountability in Research: Policies and Quality Assurance.

<http://www.tandf.co.uk/journals/titles/08989621.html>. Valid link, March 2004.

Publishes articles on research integrity and responsible conduct in basic and clinical research, research policy, research standards, and ethical issues relating to research conduct. [ed.]

Association for Practical and Professional Ethics. Homepage.

<http://www.indiana.edu/~appe/>. Valid link, March, 2004.

The Association for Practical and Professional Ethics is committed to encouraging high quality interdisciplinary scholarship and teaching in practical and professional ethics by educators and practitioners who appreciate the theoretical and practical impacts of their subjects.

To advance this broad purpose, the Association facilitates communication and joint ventures among organizations, centers, schools, colleges, and individuals concerned with the interdisciplinary study and teaching of practical and professional ethics, and supports efforts of colleges and universities, centers, professional associations, and local, state, and national governments that seek to foster curricular development and scholarly research on ethical issues. [site]

Association for the Assessment and Accreditation of Laboratory Animal Care.

Homepage. <http://www.aaalac.org/>. Valid link, March, 2004.

AAALAC is a private nonprofit organization that promotes the humane treatment of animals in science through a voluntary accreditation program. AAALAC stands for the "Association for Assessment and Accreditation of Laboratory Animal Care."

More than 650 companies, universities, hospitals, government agencies and other research institutions have earned AAALAC accreditation, demonstrating their commitment to responsible animal care and use. These institutions volunteer to participate in AAALAC's program, in addition to complying with the local, state and federal laws that regulate animal research. [site]

Association for Women in Science and Engineering. Homepage. <http://www.awise.org/>. Valid link, March 2004.

Our aim is to advance the participation of girls and women in the sciences, from biomedicine to mathematics and the social sciences, in engineering, and in the technologies, in all areas and at all levels. [site]

Association of University Technology Managers. Homepage. [http://www.autm.net/index\\_ie.html](http://www.autm.net/index_ie.html). Valid link, February, 2004.

The Association of University Technology Managers is a nonprofit organization created to function as a professional and educational society for academic technology transfer professionals involved with the management of intellectual property. [site]

National Postdoctoral Association. Homepage. [http://www.nationalpostdoc.org/about/npa\\_overview](http://www.nationalpostdoc.org/about/npa_overview). Valid link, March 2004.

The National Postdoctoral Association (NPA) is a member-driven organization that provides a unique, national voice for postdoctoral scholars. We are also a collaborative organization that seeks to work with all stakeholders to improve the postdoctoral experience in the United States. [site]

Online Ethics Center. Case Western Reserve University. Homepage. <http://onlineethics.org/>. Valid link, February, 2004.

Our mission is to provide engineers, scientists, and science and engineering students with resources for understanding and addressing ethically significant problems that arise in their work, and to serve those who are promoting learning and advancing the understanding of responsible research and practice in science and engineering.

[The section on "Responsible Research" ... contains cases, discussions, guidelines, and regulations bearing on the responsible conduct of research, including both issues of research integrity and issues of the treatment of the research subject.

Public Responsibility in Medicine and Research. Homepage. <http://www.primr.org/>. Valid link, February, 2004.

Public Responsibility in Medicine and Research is dedicated to creating, implementing, and advancing the highest ethical standards in the conduct of research. Through conferences, educational programs, and training resources, PRIM&R addresses a broad range of issues in biomedical and behavioral research, clinical practice, ethics, and the law. [site]

RCR Education Consortium. Homepage. <http://rcr.ucsd.edu/>. Valid link, February, 2004.

The RCREC is a non-profit, non-governmental consortium of institutions and organizations dedicated to promoting effective teaching of the responsible conduct of research (RCR). The purpose of the RCREC Web site is to foster communication among the members of the RCREC about RCR teaching. One of the goals of the RCREC is to disseminate information that will facilitate the creation and improvement of programs of instruction in RCR. To meet this goal, the RCREC Web site is also the home for the Online Resource for RCR Instructors. The major links on the toolbar (goals, topics, formats, tools, and connections) are the components of this Online Resource. [site]

Science and Engineering Ethics. <http://www.opragen.co.uk/>. Valid link, February, 2004.

Science and Engineering Ethics is a multi-disciplinary quarterly journal launched in January 1995 which is dedicated to exploring ethical issues of direct concern to scientists and engineers covering professional education, research and practice as well as the effects of innovations on the wider society. An international editorial board has been appointed which represents a broad range of expertise. The journal publishes original research papers, reviews, comment pieces, letters, editorials,

book reviews and conference reports. Papers containing original research are double-blind refereed. [site]

Society for Clinical Data Management. Homepage. <http://www.scdm.org/>. Valid link, March, 2004.

The Society for Clinical Data Management (SCDM) is a non-profit professional society founded to advance the discipline of Clinical Data Management. The binding interest of all members is quality clinical data management practices.

## **D. For-profit**

Health Care Compliance Strategies. Homepage. <http://dmr@hccs.com>. Valid link, February, 2004.

Health Care Compliance Strategies explains compliance rules by providing unique multimedia compliance training programs for employees at all levels. HCCS courseware is a cost-effective way to avoid the risks of fraud and abuse, and reduce the costs of employee education. Stressing quality, ethics, performance and behavior, HCCS courseware can help an organization prepare for audits, mitigate excessive fines and reduce exposure to unwanted litigation. [site]

Modules include: grants and contracts, use of animals in research, human subjects, professional relationships and data issues, conflicts of interest and scientific misconduct, laboratory research and special research issues. [ed]

Webridge Inc. Homepage. <https://webndridge.com/>. Valid link, February, 2004.

Sells software to facilitate compliance for human and animal subject research. [ed]