

CISM Ethics Training Plan (June 2006)

Science has always been a collaborative enterprise as each researcher builds on the work and knowledge of others and expects others coming later to extend their own work. The conduct of modern scientific research is ever more collaborative as it increasingly becomes a team effort that depends on the contributions of many to produce a new result or an increase in knowledge or understanding. For this process to work, scientists must have certain expectations of the behavior of others in the conduct and reporting of science. Thus the successful conduct of science depends on trust between scientists. A violation of that trust, whether intentional or unintentional, is a breach of the ethical conduct of science.

It is incumbent on all researchers, and especially on those who train young scientists entering research, to ensure that all researchers understand these expectations, and to recognize the issues that need to be considered. The CISM Ethics Training Plan outlines the procedure used to ensure that all scientists who join the CISM team have been made aware of the ethical issues that arise in the conduct of scientific research, and have participated in a discussion of these issues using concrete examples.

Purpose:

All scientists and students (undergraduates, graduate students, research associates, research scientists, and faculty) who participate in CISM research must undergo training in the ethical conduct of research within the context of CISM that includes discussion of the ownership of research and ideas and the roles and responsibilities regarding intellectual property. This plan outlines the CISM ethics training program and provides a means of ensuring every CISM team member receives this training.

CISM Ethics Training Program:

The CISM Ethics training program consists of two components: readings completed by the CISM participant on their own, and following this, participation in an ethics discussion led by a senior member of the CISM team, held either at their own institution or at a CISM All-Hands Meeting. Much of the discussion time will focus on particular case studies chosen and assigned by the discussion leader beforehand.

CISM Ethics Trainers: Each CISM Institutional PI will appoint one or more CISM Ethics Trainers from among the senior scientists at that institution. The CISM Ethics Trainers will have completed CISM ethics training at a CISM All-Hands Meeting, be familiar with the CISM Ethics Training Resources, and have an interest in training young scientists.

Each CISM Participant, together with their institutional PI, will elect to complete the CISM Ethics Training Program either at their own institution or during their first CISM All-Hands Meeting.

It is the responsibility of the CISM Institutional PI to ensure that each CISM participant at their institution receives ethics training in a timely manner and certainly within a year of joining CISM.

Ethics Training at home institution:

At least once each year, each CISM Institutional PI, (with assistance from the CISM assistant director) will identify those CISM participants at their institution who have not received ethics training. Together with each participant, the institutional PI will decide whether that participant will receive training locally or at the next CISM All Hands Meeting. If any participants are to be trained locally, he/she will provide the list of names to one of the local ethics trainers.

The local ethics trainer will provide each participant with ethics training materials, a copy of *On Being A Scientist*, of the CISM Rules of the Road, and a list of case studies to be discussed. Case studies will be selected from among those contained in *On Being A Scientist*, and those prepared by the University of Indiana and available on-line at onlineethics.org. The ethics trainer will also schedule a training session at a time convenient to all those needing training. A training session should ideally have at least 3 participants as well as the ethics trainer to allow for a multi-faceted discussion. However, if this is not possible, individual training sessions may be held.

Prior to the training session, each participant will familiarize themselves with ethics issues by reading *On Being A Scientist*, the CISM Rules of the Road, and those case studies assigned them by the local ethics trainer.

The ethics training session will start with an introduction to ethical issues that arise in the conduct of research, discussing in particular authorship of papers and the proper use and crediting of other's intellectual effort. The remainder of the session will be used to discuss the two or three case studies already assigned as readings by the ethics trainer. Training sessions having more than 8 participants will break up into discussion groups of between 4 and 8 people for this component. At the end of each case study, a leader from each group will report briefly to the whole session on the results of that group's discussion.

Ethics Training at the CISM All-Hands Meeting:

The CISM director will organize an Ethics Training Session at each CISM All Hands Meeting to be led either by himself or another CISM ethics trainer. Each Institutional PI will provide of list of names of those who will receive ethics training at the All Hands Meeting to the CISM director and assistant director well in advance of the meeting. The session leader will provide each participant with access to *On Being A Scientist*, the CISM Rules of the Road, and list of the case studies to be discussed, either electronically or in hard copy, several weeks before the All-Hands meeting. The ethics training session at the all-hands meeting will follow the same form as those held at a CISM Institution.

Verification and Record Keeping:

The CISM Assistant Director will maintain a record of CISM Participants who have attended a CISM-sponsored ethics training session. Following each session, the session leader is responsible for providing the Assistant Director with a list of those who attended and completed the training. Each year, as the list of CISM participants is updated for the annual report, the Assistant Director will verify that CISM participants

have received ethics training. If any CISM participants have not yet received ethics training, she will notify the CISM Director and the relevant institutional PI's and provide them with a list of those who still need to receive ethics training.

CISM Ethics Resources:

On Being A Scientist: Responsible Conduct in research, Committee on Science, Engineering and Public Policy of the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine (1995), second edition. Washington, DC: National Academy Press. <http://bob.nap.edu/readingroom/books/obas/>

The CISM Rules of the Road.
<http://www.bu.edu/cism/Publications/CISMRulesoftheRoad.pdf>

Graduate Research Ethics: Cases and Commentaries (Brian Schrag, editor), Association for Practical and Professional Ethics, University of Indiana, Bloomington, ID.
<http://onlineethics.org/reseth/appe/index.html>