MICHIGAN STATE UNIVERSITY

The Graduate School

GUIDELINES FOR GRADUATE STUDENT ADVISING AND MENTORING RELATIONSHIPS

GUIDELINES FOR INTEGRITY IN RESEARCH AND CREATIVE ACTIVITIES

Introduction

Our collective goal is that MSU graduate students and postdoctoral trainees become globally-engaged citizen-leaders. To help achieve this goal, central to their education and intellectual growth is the ability to conduct **quality research/scholarship**. Quality research/scholarship is also fundamentally important in establishing strong professional reputations for individuals, their departments and graduate programs, and MSU. A key element in this educational process is the relationship between faculty members and the students and postdoctoral trainees who they advise. To be successful, this partnership must be based on shared responsibilities and commitments to responsible research/scholarly practices.

To assist departments and graduate programs in promoting such "principled partnerships", the *"Guidelines for Graduate Student Advising and Mentoring Relationships"* and the *"Guidelines for Integrity in Research and Creative Activities"* were developed after eight months of discussion in 2003-04. The Research Mentoring Task Force, chaired by the late Hans Kende, MSU's first member of the National Academy of Sciences, included seven faculty members, representing diverse academic disciplines, including two members of the University Graduate Council, and a graduate student.

Graduate Council members endorsed the Guidelines on February 2, 2004 and approved four additional recommendations (**http://grad.msu.edu/researchintegrity/docs/ris04.pdf**). The MSU Faculty Council approved the Report and recommendations on March 30, 2004. Reference to these Guidelines is a requirement for each graduate program handbook at MSU.

The purpose of the Guidelines is twofold:
1. To emphasize that **quality research/scholarship** is conducted with integrity, and
2. To highlight that effective faculty mentoring of graduate students and postdocs about research and scholarly integrity is of fundamental importance for ensuring quality research/scholarship in **all** disciplines.

How should these Guidelines be used? Read them, of course. But more importantly, discuss them with the graduate students, postdocs, and undergraduates in your research group, department, and/or graduate program. Interpret what each Key Integrity Principle means in the context of your discipline or sub-field. Use these Guidelines well and thoughtfully in your professional relationships. And, remember:

> "Mentoring is a brain to pick, an ear to listen, and a push in the right direction"
> ~ John Crosby

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Guidelines for Graduate Student Advising and Mentoring Relationships

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Graduate education, research, and creative activities take place within a community of scholars where constructive relationships between graduate students and their advisors and mentors are essential for the promotion of excellence in graduate education and for adherence to the highest standards of scholarship, ethics, and professional integrity.

The effective advising and mentoring of graduate students is the joint responsibility of the graduate degree-granting and program units (henceforth referred to as academic units), the faculty advisors, and the students.

The following guidelines are intended to foster faculty-graduate student relationships that are characterized by honesty, courtesy, and professionalism and that provide students with intellectual support and guidance. These guidelines recognize that good advising and mentoring of graduate students entail a considerable commitment of time and effort on the part of the faculty and the academic unit.

The academic unit forms the community of scholars responsible for cultivating a stimulating intellectual environment and, through the joint efforts of all faculty members of the unit, for mentoring of graduate students.

The responsibilities of the academic unit include:

- Preparing and maintaining a graduate handbook that includes the information outlined in the Graduate Handbook Template (**http://grad.msu.edu/handbooktemplate/**), as well as academic unit and college requirements for degree completion
- Providing opportunities for graduate students to interact with a wide array of colleagues from within and outside the University through such activities as speaker series, colloquia, and other formal and informal events
- Creating opportunities for graduate students to become familiar with the various forms of scholarship in the field
- Sharing responsibility with guidance committees and faculty advisors in fostering the professional and career development of graduate students, for example, by providing venues for honing professional writing and presentation skills and organizing seminars on such issues as ethics, professional integrity and grantsmanship

The responsibilities of the chair or director of the academic unit and/or director of graduate studies include:

- Knowing University and academic unit rules, procedures and policies applicable to graduate study, research, and creative activities, including those in Academic Programs (**http://www.reg.msu.edu/AcademicPrograms**/)**,** Graduate Student Rights and Responsibilities (**http://grad.msu.edu/gsrr/**), or Medical Student Rights and Responsibilities **(http://splife.studentlife.msu.edu/medical-student-rights-and-responsibilites-mssr),** and Academic Freedom for Students at Michigan State University **(http://splife.studentlife.msu.edu/academic-freedom-for-students-at-michigan-state-university**) and ensuring that they are followed in the academic unit
- Distributing to incoming graduate students the academic unit's Graduate Handbook
- Organizing orientation sessions for incoming graduate students
- Ensuring that required courses and examinations are scheduled on a regular basis, thereby enabling graduate students to make timely progress in their degree programs
- Providing advice on matters such as course selection until a permanent faculty advisor and guidance committee are selected, or appointing a committee or temporary advisor to assume that role
- Facilitating selection of a faculty advisor and guidance committee and facilitating changes of faculty advisor and/or guidance committee should this become necessary

- Monitoring at least annually the progress of students in the graduate program and the quality of their research or creative activity, as well as the standards and fairness of examinations
- Monitoring the performance of faculty advisors and guidance committees to ensure that graduate students are receiving appropriate mentoring
- Working toward fair resolution of conflicts between graduate students and faculty

The responsibilities of the faculty advisor include:

- Ensuring that graduate students receive information about requirements and policies of the graduate program

- Advising graduate students on developing a program plan, including appropriate course work, research or creative activity, and on available resources

- Advising graduate students on the selection of a thesis or dissertation topic with realistic prospects for successful completion within an appropriate time frame and on the formation of a guidance committee

- Providing training and oversight in creative activities, research rigor, theoretical and technical aspects of the thesis or dissertation research, and in professional integrity

- Encouraging graduate students to stay abreast of the literature and cutting-edge ideas in the field

- Helping graduate students to develop professional skills in writing reports, papers, and grant proposals, making professional presentations, establishing professional networks, interviewing, and evaluating manuscripts and papers

- Providing regular feedback on the progress of graduate students toward degree completion, including feedback on research or creative activities, course work, and teaching, and constructive criticism if the progress does not meet expectations

- Helping graduate students develop into successful professionals and colleagues, including encouraging students to participate and disseminate results of research or creative activities in the appropriate scholarly or public forums

- Facilitating career development, including advising graduate students on appropriate job and career options, as well as on the preparation of application materials for appropriate fellowship, scholarship, and other relevant opportunities

- Writing letters of reference for appropriate fellowship, scholarship, award, and job opportunities

- Providing for supervision and advising of graduate students when the faculty advisor is on leave or extended absence

The responsibilities of the guidance committee include:

- Advising graduate students on course work, research, or creative activities

- Providing at least annually feedback and guidance concerning progress toward the degree

- Administering exams in a fair and professional manner

- Reviewing the thesis or dissertation in a timely, constructive and critical manner

The responsibilities of the graduate student include:

- Learning and adhering to University and academic unit rules, procedures, and policies applicable to graduate study and research or creative activities, including those outlined in Academic Programs (**http://www.reg.msu.edu/AcademicPrograms/**), Graduate Student Rights and Responsibilities (**http://grad.msu.edu/gsrr/**), or Medical Student Rights and Responsibilities (**http://splife.studentlife.msu.edu/medical-student-rights-and-responsibilites-mssr**), and Academic Freedom for Students at Michigan State University (**http://splife.studentlife.msu.edu/academic-freedom-for-students-at-michigan-state-university**)

- Meeting University and academic unit requirements for degree completion

- Forming a guidance committee that meets University requirements as well as requirements that are outlined in the Graduate Handbook of the academic unit

- Following disciplinary and scholarly codes of ethics in course work, thesis or dissertation research, and in creative activities

- Practicing uncompromising honesty and integrity according to University and federal guidelines in collecting and maintaining data

- Seeking regulatory approval for research in the early stages of thesis or dissertation work where applicable

- Keeping the faculty advisor and guidance committee apprised on a regular basis of the progress toward completion of the thesis or dissertation

RESOURCES

"Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering", National Academy Press, Washington, D.C., 1997, 84 pp (**http://www.nap.edu/catalog.php?record_id=5789**).

"Integrity in Scientific Research: Creating an Environment that Promotes Responsible Conduct", National Academies Press, Washington, D.C., 2002, 216 pp (**http://www.nap.edu/books/0309084792/html/**).

"On Becoming a Scientist: Responsible Conduct in Research", Third Edition, National Academy Press, Washington, D.C., 2009, 63 pp (**http://www.nap.edu/catalog.php?record_id=12192**).

"On the Right Track: A Manual for Research Mentors", M.F. King; D.D. Denecke (Ed.), Council of Graduate Schools, Washington, D.C., 2003, 26 pp.

Guidelines for Integrity in Research and Creative Activities

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UPDATED Resources 2011 - The MSU Graduate School has an extensive set of resources and information: **http://grad.msu.edu/researchintegrity/** and we are linked to other national sources on these topics.

The conduct of research and creative activities by faculty, staff, and students is central to the mission **(http://president.msu.edu/mission/)** of Michigan State University and is an institutional priority. Faculty, staff, and students work in a rich and competitive environment for the common purpose of learning, creating new knowledge, and disseminating information and ideas for the benefit of their peers and the general public. The stature and reputation of MSU as a research university are based on the commitment of its faculty, staff, and students to excellence in scholarly and creative activities and to the highest standards of professional integrity. As a partner in scholarly endeavors, MSU is committed to creating an environment that promotes ethical conduct and integrity in research and creative activities.

Innovative ideas and advances in research and creative activities have the potential to generate professional and public recognition and, in some instances, commercial interest and financial gain. In rare cases, such benefits may become motivating factors to violate professional ethics. Pressures to publish, to obtain research grants, or to complete academic requirements may also lead to an erosion of professional integrity.

Breaches in professional ethics range from questionable research practices to misconduct **(http://www.rio.msu.edu/)**. The primary responsibility for adhering to professional standards lies with the individual scholar. It is, however, also the responsibility of advisors and of the disciplinary community at large. Passive acceptance of improper practices lowers inhibitions to violate professional ethics.

Integrity in research and creative activities is based not only on sound disciplinary practice but also on a commitment to basic personal values such as fairness, equity, honesty, and respect. These guidelines are intended to promote high professional standards by everyone—faculty, staff, and students alike.

Key Principles

Integrity in research and creative activities embodies a range of practices that includes:

- Honesty in proposing, performing, and reporting research
- Recognition of prior work
- Confidentiality in peer review
- Disclosure of potential conflicts of interest
- Compliance with institutional and sponsor requirements
- Protection of human subjects and humane care of animals in the conduct of research
- Collegiality in scholarly interactions and sharing of resources
- Adherence to fair and open relationships between senior scholars and their coworkers

Honesty in proposing, performing, and reporting research.

The foundation underlying all research is uncompromising honesty in presenting one's own ideas in research proposals, in performing one's research, and in reporting one's data. Detailed and accurate records of primary data must be kept as unalterable documentation of one's research and must be available for scrutiny and critique. It is expected that researchers will always be truthful and explicit in disclosing what was done, how it was done, and what results were obtained. To this end, research aims, methods, and outcomes must be described in sufficient detail such that others can judge the quality of what is reported and can reproduce the data. Results from valid observations and tests that run counter to expectations must be reported along with supportive data.

Recognition of prior work.

Research proposals, original research, and creative endeavors often build on one's own work and also on the work of others. Both published and unpublished work must always be properly credited. Reporting the work of others as if it were one's own is plagiarism. Graduate advisors and members of guidance committees have a unique role in guiding the independent research and creative activities of students. Information learned through private discussions or committee meetings should be respected as proprietary and accorded the same protection granted to information obtained in any peer-review process.

Confidentiality in peer review.

Critical and impartial review by respected disciplinary peers is the foundation for important decisions in the evaluation of internal and external funding requests, allocation of resources, publication of research results, granting of awards, and in other scholarly decisions. The peer-review process involves the sharing of information for scholarly assessment on behalf of the larger disciplinary community. The integrity of this process depends on confidentiality until the information is released to the public. Therefore, the contents of research proposals, of manuscripts submitted for publication, and of other scholarly documents under review should be considered privileged information not to be shared with others, including students and staff, without explicit permission by the authority requesting the review. Ideas and results learned through the peer-review process should not be made use of prior to their presentation in a public forum or their release through publication.

Disclosure of potential conflicts of interest.

There is real or perceived conflict of interest when a researcher has material or personal interest that could compromise the integrity of the scholarship. It is, therefore, imperative that potential conflicts of interest be considered and acted upon appropriately by the researcher. Some federal sponsors require the University to implement formal conflict of interest policies. It is the responsibility of all researchers to be aware of and comply with such requirements.

Compliance with institutional and sponsor requirements.

Investigators are granted broad freedoms in making decisions concerning their research. These decisions are, however, still guided, and in some cases limited, by the laws, regulations, and procedures that have been established by the University and sponsors of research to protect the integrity of the research process and the uses of the information developed for the common good. Although the legal agreement underlying the funding of a sponsored project is a matter between the sponsor and the University, the primary responsibility for management of a sponsored project rests with the principal investigator and his or her academic unit.

Protection of human subjects and humane care of animals in the conduct of research.

Research techniques should not violate established professional ethics or federal and state requirements pertaining to the health, safety, privacy, and protection of human beings, or to the welfare of animal subjects. Whereas it is the responsibility of faculty to assist students and staff in complying with such requirements, it is the responsibility of all researchers to be aware of and to comply with such requirements.

Collegiality in scholarly interactions and sharing of resources.

Collegiality in scholarly interactions, including open communications and sharing of resources, facilitates progress in research and creative activities for the good of the community. At the same time, it has to be understood that scholars who first report important findings are both recognized for their discovery and afforded intellectual property rights that permit discretion in the use and sharing of their discoveries and inventions. Balancing openness and protecting the intellectual property rights of individuals and the institution will always be a challenge for the community. Once the results of research or creative activities have been published or otherwise communicated to the public, scholars are expected to share materials and information on methodologies with their colleagues according to the tradition of their discipline.

Faculty advisors have a particular responsibility to respect and protect the intellectual property rights of their advisees. A clear understanding must be reached during the course of the project on who will be entitled to continue what part of the overall research program after the advisee leaves for an independent position. Faculty advisors should also strive to protect junior scholars from abuses by others who have gained knowledge of the junior scholar's results during the mentoring process, for example, as members of guidance committees.

Adherence to fair and open relationships between senior scholars and their coworkers.

The relationship between senior scholars and their coworkers should be based on mutual respect, trust, honesty, fairness in the assignment of effort and credit, open communications, and accountability. The principles that will be used to establish authorship and ordering of authors on presentations of results must be communicated early and clearly to all coworkers. These principles should be determined objectively according to the standards of the discipline, with the understanding that such standards may not be the same as those used to assign credit for contributions to intellectual property. It is the responsibility of the faculty to protect the freedom to publish results of research and creative activities. The University has affirmed the right of its scholars for first publication except for "exigencies of national defense". (Faculty Handbook, **http://www.hr.msu.edu/documents/ facacadhandbooks/facultyhandbook/index.htm**) It is also the responsibility of the faculty to recognize and balance their dual roles as investigators and advisors in interacting with graduate students of their group, especially when a student's efforts do not contribute directly to the completion of his or her degree requirements.

Misconduct in Research and Creative Activities (updated 2011)

Federal and University policies (**http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=00-30852-filed.pdf**) define misconduct to include fabrication (making up Research data or results and recording or reporting them), falsification (manipulating research materials, equipment or processes, or changing or omitting research data or results such that the research is not accurately represented in the research record), and plagiarism (appropriation of another person's ideas, processes, results, or words without giving appropriate credit) or any other practice that seriously deviates from practices commonly accepted in the discipline or in the academic and research communities generally in proposing, performing, reviewing, or reporting research and creative activities. Misconduct does not include appropriative practices in the creative arts insofar as they accord with accepted standards in the relevant discipline. Misconduct does not include honest errors or honest differences of opinion in the interpretation or judgment of data.

The University views Misconduct as grounds for disciplinary action pursuant to applicable University policies, procedures and contracts, including procedures for challenging or grieving disciplinary action. Disciplinary action could include termination of employment, dismissal of students, and revocation of degrees. It is the responsibility of faculty, staff, and students to understand MSU's Procedures on Misconduct in Research and Creative Activities (**http://www.rio.msu.edu/June_2009_Procedures.pdf**), to report perceived acts of Misconduct of which they have direct knowledge to the Research Integrity Officer, and to protect the rights and privacy of individuals making such reports in good faith.
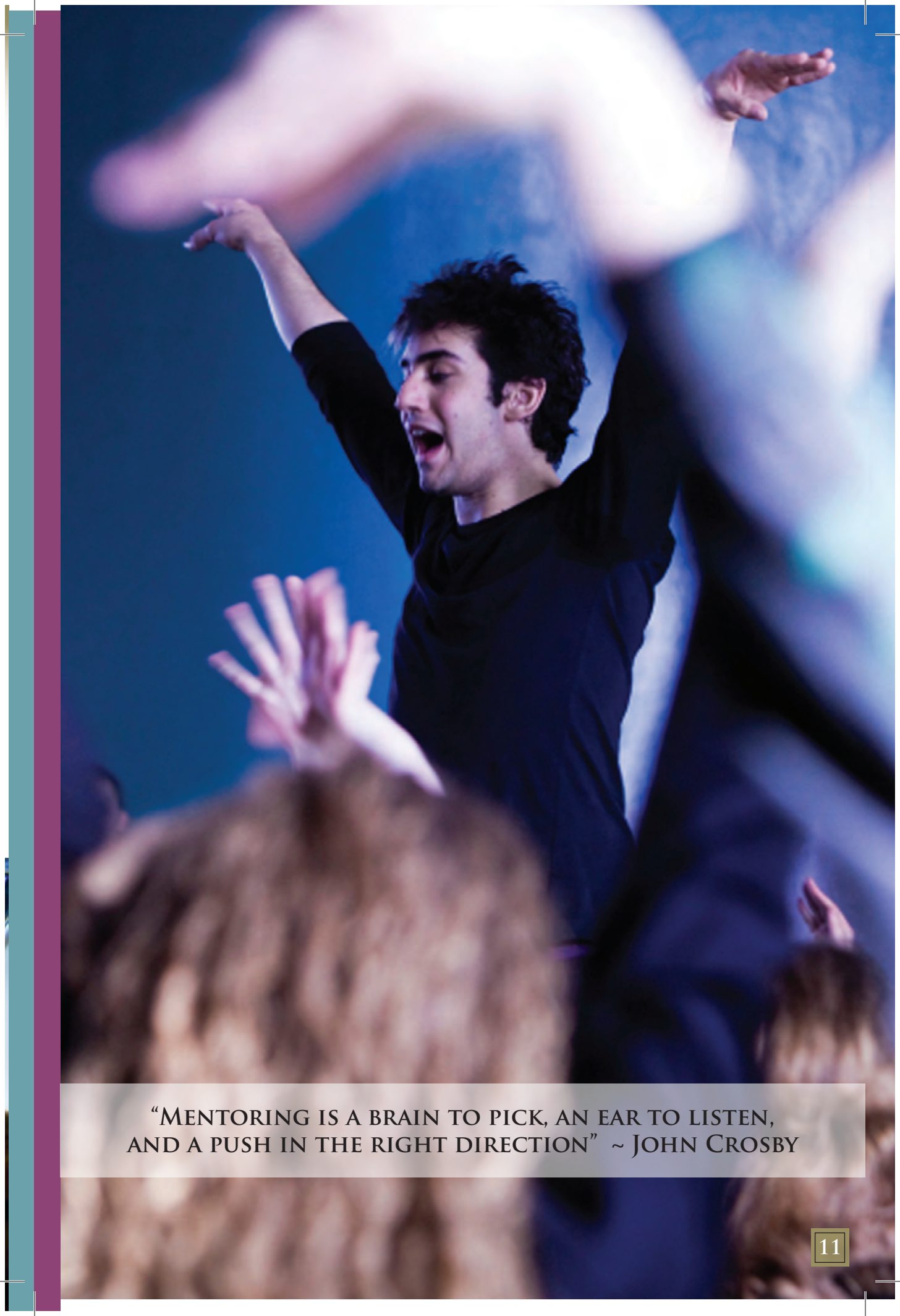
RESOURCES

"Guidelines on Authorship", Endorsed by the University Research Council, January 15, 1998 (**http://www.msu.edu/unit/vprgs/authorshipguidelines.htm**).

"Integrity in Scientific Research: Creating an Environment that Promotes Responsible Conduct", National Academies Press, Washington, D.C., 2002, 216 pp (**http://www.nap.edu/books/0309084792/html**).

"Research Data: Management, Control, and Access Guidelines", Endorsed by the University Research Council, February 7, 2001 (**http://www.msu.edu/unit/vprgs/research_data.htm**).

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