



TITLE IX COMPLIANCE REVIEW REPORT



MASSACHUSETTS INSTITUTE OF TECHNOLOGY PHYSICS DEPARTMENT

Office of Diversity and Equal Opportunity
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TABLE OF CONTENTS

I.	INTRODUCTION	3
A.	Background	3
B.	Objectives and Scope	3
C.	Methodology	4
II.	COMPLIANCE REVIEW ANALYSIS	6
A.	Designation of Responsible Official for Title IX Coordination and Enforcement	6
B.	Adoption of Title IX Grievance Procedures/Policy Dissemination	9
C.	Title IX Self-Evaluation	16
D.	Recruitment, Outreach, Admissions, Enrollment, and Retention	18
E.	Academic Environment: Advising, Career Counseling, Research Participation and Classroom Experiences	21
F.	Policies/Student Experiences Relating to Parental/Marital Status ("Family Friendly"), Safety, and Sexual Harassment	26
III.	CONCLUSION	31

I. INTRODUCTION

NASA conducted a compliance review of the Massachusetts Institute of Technology (MIT) Physics Department to ensure that beneficiaries of NASA grants have equal opportunities, without regard to sex, to pursue, participate in, and benefit from academic, extracurricular, research, occupational training, and other educational activities. The review was conducted under NASA's policy and regulations to ensure that educational programs the Agency assists financially provide equal opportunities regardless of sex.¹ This policy is based on Title IX of the Education Amendments of 1972, and NASA's implementing regulations, which prohibit discrimination on the basis of sex in educational programs and activities receiving Federal financial assistance.²

A. Background

NASA issued its Title IX regulations, which provide for periodic reviews of NASA grant recipients, in August 2000.³ The Agency conducted a limited scope "desk-audit" review of 183 grant recipients between 2003 and 2006, to evaluate compliance with Title IX procedural requirements such as the designation of a Title IX Coordinator.⁴ NASA's Title IX compliance program received further impetus with the July 2004, recommendation of the Government Accountability Office (GAO) to conduct onsite compliance reviews.⁵ Beginning in late 2004, NASA participated on an Interagency Task Force growing out of the GAO report.⁶

B. Objectives and Scope

In conducting this review, NASA sought to achieve the following key objectives:

Objective I

To evaluate MIT's compliance with NASA Title IX regulations regarding the Title IX Coordinator's functioning and responsibilities; Title IX policy and dissemination; Title IX grievance procedures and the effectiveness of their implementation; and specifically regarding MIT's Physics Department, Title IX self-evaluation efforts; recruitment and outreach practices;

¹ NASA Policy Directive 2081.1A, *Subject: Nondiscrimination In Federally Assisted and Federally Conducted Programs of NASA - Delegation of Authority*.

² Title IX of the Education Amendments, as amended (20 U.S.C. §§ 1681-1688); Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance, 14 C.F.R. Part 1253.

³ See 65 Fed. Reg. 52,859 (Aug. 30, 2000). Enforcement Procedures, 14 C.F.R. § 1253.605 (incorporating compliance requirements of Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d)). In addition, the NASA Authorization Act of 2005 requires NASA to conduct at least two Title IX compliance reviews annually (42 U.S.C. § 16798(b)).

⁴ Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(a).

⁵ Government Accountability Office, *Gender Issues: Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX* (July 2004) (hereafter cited as the July 2004 GAO Report) Included in the report's recommendations was that "the Administrator of NASA continue to implement its compliance review program to ensure that compliance reviews of grantees are periodically conducted." (p. 28).

⁶ The Task Force includes the other Agencies reviewed by GAO on Title IX compliance: the Departments of Education and Energy and the National Science Foundation. The group is led by the Department of Justice, Civil Rights Division, Coordination and Review Section.

admission, enrollment, and retention; academic advising/career counseling; research participation and classroom experiences; and policies/procedures and Physics student experiences relating to parental/marital status (“family friendly” policies), safety and sexual harassment.⁷

Objective 2

To report on promising practices of the MIT’s Physics Department in promoting gender equity and increasing the number of women participating in its physics program, consistent with the recommendations and focus of the July 2004 GAO Report, and to determine the extent to which promising practices are actually helping to increase the number of women participating in MIT’s Physics program.

C. Methodology

1. Compliance Review Plan

The NASA Title IX Compliance Review Plan (CRP) was developed based on consultations with the U.S. Department of Justice (DOJ), Civil Rights Division, and the U.S. Department of Education (ED) Office for Civil Rights, as well as NASA’s Title IX literature review.⁸ The CRP identified two main focal points for compliance assessment: procedural compliance requirements and program administration. The CRP also identified the methods by which needed information would be gathered for each of the substantive areas. These methods included information requests for statistical data as well as relevant policies and procedures, and an on-site visit to MIT to interview university officials, Physics Department faculty, and Physics students.

2. Literature Review⁹

NASA conducted a review of literature regarding women in science and engineering (S&E) studies, including Title IX policy and enforcement in the S&E context.¹⁰ To better understand

⁷ The compliance review was limited in scope to the MIT Physics Department, including both the undergraduate and graduate programs. Furthermore, the compliance review did not cover Subpart E, Discrimination on the Basis of Sex in Employment in Education Programs or Activities Prohibited, of NASA’s Title IX regulations at 14 C.F.R. Part 1253.

⁸ See Section I.C.2., below.

⁹ Variations of NASA’s summary of its Title IX literature review also appear in NASA, Office of Diversity and Equal Opportunity, “Title IX Compliance Review Report: University of Maryland Aerospace Engineering Department,” (April 2007); and “Title IX Compliance Review Report: University of Michigan Aerospace Engineering Department,” (July 2007).

¹⁰ See generally, Mildred S. Dresselhaus, Judy R. Franz, Bunny S. Clark, “Improving the Climate for Women in Physics: A Program of Site Visits Funded by the National Science Foundation” (American Physical Society and the American Association of Physics Teachers: 1995) (Program Summary of the American Physical Society Committee on the Status of Women Site Visit Program, accessible at <http://www.aps.org/programs/women/sitevisits/summary.cfm>) (hereafter cited as APS Program Summary); National Academy of Sciences, National Research Council, *To Recruit and Advance: Women Students and Faculty in Science and Engineering* (2006); Government Accountability Office, *Gender Issues: Women’s Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX* (July 2004); Catherine Pieronek, *Title IX and Gender Equity in Science, Technology, Engineering and Mathematics Education: No Longer an Overlooked Application of the Law*, 31 J.C. & U.L 295 (2005); Ellen Sekreta, *Sexual Harassment, Misconduct, and*

experiences of women specifically in the physics context, NASA relied primarily on the summary report of the American Physical Society (APS) Committee on the Status of Women Site Visit Program. This report “Improving the Climate for Women in Physics,” provides valuable information gathered by APS about women’s experiences in Physics programs, based on site visits to over 40 university Physics Departments across the country since 1990.¹¹ To date, APS has not conducted a site visit of the MIT Physics Department.¹²

One of the basic objectives of APS’ site visit program was to identify a set of generic problems commonly experienced by women in the Physics Departments reviewed.¹³ For each site visit, APS reviews quantitative and qualitative information to assess the climate for women at the host facility. APS reports that the climate for women varies dramatically among the departments visited.¹⁴ Further, APS reports that at many universities visited, women described “repeated indignities” that they had experienced, such as pictures of nude women on faculty office walls; posters and computer printouts with pictures of women in lewd positions in TA communal offices; women students being asked to substitute for secretaries during their breaks; thesis advisors who call their female students “honey” or the equivalent; and a prevalent assumption that all rewards obtained by women are “only because you are a woman.” NASA did not find any indication of this conduct occurring within the MIT Physics Department.

APS finds that “although none of these indignities is earth shattering, the long term effects of being subjected to such things repeatedly takes much of the enjoyment out of the graduate experience of many female physics students and helps explain why only the very committed and the very tough remain in physics.”¹⁵ A 1993 “climate” survey of Physics programs, conducted by the American Institute of Physics (AIP), showed that only 27 percent of women graduate student respondents in the U.S. believe that their department encourages self-confidence.¹⁶ In its 2001 survey report *Women Physicists Speak*, AIP observed that: “[w]omen . . . face barriers in the form of strongly held beliefs that [they] are incapable of doing good science”¹⁷ and that “[c]onfidence in one’s ability can be especially important for female students when they confront the negative effects of sexism, which can cause women to question their ability or their right to pursue advanced degrees.”¹⁸

the Atmosphere of the Laboratory: The Legal and Professional Challenges Faced by Women Physical Science Researchers at Educational Institutions, 13 Duke J. Gender L. & Pol’y 115 (Spring 2006); National Academy of Sciences, National Academy of Engineering and Institute of Medicine, *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering* (2006).

¹¹ See Jean M. Curtain, Geneva Blake, and Christine Cassagnau, “The Climate for Women Graduate Students in Physics,” *Journal of Women and Minorities in Science and Engineering*, vol. 3, pp. 95-117 (1997); see also APS Program Summary.

¹² The information provided regarding the APS site visit program is intended to provide context regarding the issues relating to gender equity in physics programs at a macro-level. As indicated, APS has not conducted a site visit at MIT and the specific APS findings mentioned in this discussion do not pertain to MIT.

¹³ APS Program Summary.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ American Institute of Physics Statistical Research Center, *Women in Physics Speak: The 2001 International Survey of Women in Physics*, p. 19. Accessible at <http://www.aip.org/statistics/trends/reports/iupap.pdf>.

¹⁸ Ibid., p. 7.

Based on its Site Visit Program, APS reports that important ingredients for a positive climate can include: at least several active, mainstream female faculty; a group of female students who interact regularly with each other; a supportive chair who listens and responds to concerns of students; and efforts to create a safer physical environment.¹⁹

NASA finds that the MIT Physics Department is addressing gender related issues in a variety of innovative and creative ways. This is consistent with the policies and practices identified by APS and in other research literature for improving recruitment and retention of women in S&E fields (see “Promising Practices” sections, below).

3. On-site Compliance Review Activities

NASA conducted an on-site review of the Physics Department on May 8 – May 11, 2007. During its visit, NASA met with MIT’s Title IX coordinator,²⁰ and conducted interviews with nine members of the Physics Department faculty (six men and three women), including the Physics Department Chair, the Director of the Kavli Institute for Astrophysics and Space Research, and the Associate Department Head for Education. NASA also conducted one-on-one interviews with six graduate students (three women and three men), and four undergraduate students (two men and two women). Additionally, NASA met with three student groups, including both undergraduate and graduate students: the Women in Physics Program (WIP), the Society of Physics Students, and the Physics Resources for Easing Friction and Stress (REFS) Program, a group of students who have been trained in mediation principles to provide Physics students with support and advice on academic and related issues.

II. COMPLIANCE REVIEW ANALYSIS

The compliance review analysis provides an assessment of sub-issues within the two focus areas of procedural compliance requirements and program administration. The analysis also includes promising practices and recommendations, as appropriate.

A. Designation of Responsible Official for Title IX Coordination and Enforcement

1. Compliance Assessment

The NASA Title IX regulations state that a recipient must designate a responsible official for Title IX coordination and enforcement, the “Title IX Coordinator.”²¹ The recipient must notify all students and employees of the Title IX Coordinator’s name, office address, and telephone number.

For Federal agencies evaluating recipient compliance with this provision, the U.S. Department of Justice (DOJ) technical assistance document “Questions and Answers Regarding Title IX Procedural Requirements” (hereafter referred to as the “Title IX Q&A”), provides basic principles for the designation and effective functioning of the Title IX Coordinator within the

¹⁹ APS Program Summary.

²⁰ In addition, the Title IX Coordinator prepared a written statement detailing her roles and responsibilities.

²¹ Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(a).

structure of the recipient institution.²² For example, the Title IX Q&A states that effective implementation of the Title IX coordinator's responsibilities includes providing ongoing training, consultation, technical and information services regarding Title IX requirements, grievance issues and compliance programs; and having access to information and authority necessary to enforce compliance requirements.

MIT has designated its Vice President for Human Resources as its Title IX Coordinator and Equal Opportunity Officer. As such, the Vice President for Human Resources has campus-wide responsibilities for matters pertaining to equal opportunity and diversity. For example, she plays an oversight role in EO compliance functions for which the Human Resources Office has responsibility. Specific program initiatives, preparation of related quantitative reports, and maintenance of the MIT Affirmative Action Plan and related policy statements are the responsibility of the Coordinator of Staff Diversity Initiatives/Affirmative Action, who reports to the Vice President for Human Resources.

Of the faculty and students interviewed during the on-site review, very few were familiar with the name of the office or the officer who had been designated to perform the responsibilities of the Title IX Coordinator. Inasmuch as the Vice President for Human Resources (hereafter referred to the Title IX Coordinator) assumed her duties in this position only three months prior to the on-site review, NASA recognizes that she has not had the opportunity for the kind of exposure to faculty, staff and students that would make her well-known to the campus community. However, lack of knowledge regarding the name of the office, if not the officer, that handles Title IX matters, is of concern.

It is clear that the Title IX Coordinator is sufficiently elevated in MIT's organizational structure to have the direct access to the President and other top leadership needed to effectively perform her duties, e.g., enforce compliance requirements. However, it appears that because the Title IX Coordinator is the Vice President for Human Resources, she may be more associated with matters pertaining to MIT employees, rather than students. NASA notes that as Title IX and other civil rights laws are intended to better ensure non-discrimination and equal opportunities for program beneficiaries, e.g., students, the Title IX Coordinator is responsible for the entire campus community.

The name of the Title IX Coordinator and her roles and responsibilities in ensuring compliance with Title IX and other civil rights laws pertaining to Federally assisted programs is cited in a section of the MIT policy compendium entitled "General Employment Policies."²³ NASA notes that this designation does not accurately reflect all of the responsibilities of the Title IX coordinator, as her role covers educational as well as employment opportunities. Likewise, the civil rights laws regarding Federally assisted programs, e.g., Title IX, are concerned with educational opportunities.

²² This document is accessible at <http://www.usdoj.gov/crt/cor/coord/TitleIXQandA.htm>.

²³ MIT Policies and Procedures, Section 7.0, General Employment Policies, accessible at <http://web.mit.edu/policies/7.1.html>

There is also a functional and operational aspect to NASA's concern. Specifically, it is unclear based on the university's organizational structure the role that the Title IX Coordinator plays regarding EO complaints filed by students against other students. Such matters are handled by three offices, the Office of the Dean of Student Life, the Office of Undergraduate Student Education, and the Office of Graduate Students, each of which has some responsibility for handling student complaints. At a minimum, a formalized collaborative relationship, perhaps through a Memorandum of Understanding, between HR and the three offices named above, is needed to better ensure that the Title IX Coordinator is able to function effectively in matters pertaining to both MIT students and employees. (see "Recommendations" below).

Overall, regarding the MIT grievance procedures covering Title IX and other civil rights laws, it appears the Title IX Coordinator is positioned to appropriately implement and administer the process, with some further clarification of roles and responsibilities. However, NASA has concerns with both the process as currently written and its implementation (see "Adoption of Grievance Procedures/Title IX Policy Dissemination," Section II.B.2., below).

2. *Recommendations*

(a) The Vice President for Human Resources/Title IX Coordinator should consider splitting the Title IX (and other civil right laws) duties among direct reports. For example, there might be a direct report for employment matters and one for student or educational matters pertaining to EO.

(b) The Office of Human Resources, in cooperation with other Offices implementing MIT's Complaint and Grievance Procedures, e.g., Office of the Dean of Student Life, should conduct periodic assessments to assure that processes and timeliness requirements are being adhered to and that the grievance process is effectively managed.

(c) The Office of Human Resources, in collaboration with other stakeholder officers, e.g., Office of Undergraduate Student Education, should better publicize the roles and responsibilities of the Title IX Coordinator. For example, MIT may wish to consider a highlighted entry on the MIT Web site and include information on the role of the Title IX Coordinator as an insert to orientation packages.

(d) MIT should revise Policies and Procedures to place the name of the Title IX Coordinator and her role in ensuring compliance with Title IX and other laws primarily concerned with equal opportunity for program beneficiaries, e.g., students, in a more appropriately titled section.

3. *Promising Practices*

(a) The Title IX Coordinator is a member of the MIT Academic Council (consisting of the President, Provost, Chancellor, Vice Presidents, Deans and other members of the MIT executive management team) that meets weekly. In addition, the Title IX Coordinator meets monthly with the President, Provost and other senior officers of the Institute and has regular informal interactions with all Academic Council members.

(b) Human Resources Officers (HROs) are deployed into the departments, labs, and centers of MIT and regularly observe environments for morale and climate issues with both employees and students. HROs have the access to the head of the unit to discuss issues that arise.

B. Adoption of Title IX Grievance Procedures/Policy Dissemination

1. Compliance Assessment

The NASA Title IX regulations require that recipient educational institutions adopt and publish grievance procedures providing for prompt and equitable resolution of student and employee complaints alleging any action that would be prohibited by Title IX.²⁴ The regulations do not specify a structure or format for the grievance procedures. However, the U.S. Department of Education, Office for Civil Rights (OCR) and the U.S. Department of Justice Civil Rights Division have issued Title IX guidance addressing the requirements for internal grievance procedures.²⁵ For example, this guidance has emphasized the need for recipient institutions to have “well-publicized and effective grievance procedures in place to handle complaints of sex discrimination, including sexual harassment complaints.”²⁶

(a) Written Process

For agencies reviewing educational institution grievance procedures, the DOJ Title IX Q&A provides guidance on some of the basic components of effective grievance procedures. For example, recipient grievance procedures should include both an informal and formal process, and should inform the grievant of the right to file a discrimination complaint with an appropriate Federal agency, either simultaneously with the filing of an internal grievance or after the unsatisfactory resolution of a grievance.

MIT’s student grievance procedures are codified in MIT Policies and Procedures, “Complaint and Grievance Procedures,” (CGP) located under the “Relations and Responsibilities Within the MIT Community” section of MIT’s policy compendium.²⁷ The CGP describes the grievance procedures for those who work at MIT and students at MIT, and the availability of independent investigation panels for complaints of harassment and discrimination. The procedures offer complainants several options, including direct approach, anonymous reporting, informal third party intervention, mediation, generic education, and formal investigation.

NASA’s review of MIT’s grievance procedures raised several concerns. As a general matter there is a lack of clarity regarding basic elements of the process, such as identifying who will conduct investigations and who will decide allegations of discrimination. This is largely due to the fact that key aspects of the procedures are written in passive rather than active voice (e.g.,

²⁴ Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(b).

²⁵ See, e.g., U.S. Department of Justice Civil Rights Division, *Title IX Legal Manual* (Jan. 11, 2001), § V.E., p. 111 (accessible at <http://www.usdoj.gov/crt/cor/coord/ixlegal.htm>) ; U.S. Department of Education, Office for Civil Rights, “Revised Sexual Harassment Guidance: Harassment of Students by School Employees, Other Students, or Third Parties,” (Jan. 19, 2001) (accessible at <http://www.ed.gov/about/offices/list/ocr/docs/shguide.html>.) (hereafter cited as OCR Revised Sexual Harassment Guidance)

²⁶ See, OCR Revised Sexual Harassment Guidance, Preamble, “Enduring Principles from the 1997 Guidance.”

²⁷ MIT Policies and Procedures, Section 9.6, Complaint and Grievance Procedures.

“[the complaint] should be acknowledged,” “once a complaint is decided,” “the complaint should be investigated”).

NASA notes also that MIT’s procedures do not clearly state students’ rights to file a complaint with the ED OCR or other Federal agencies providing financial assistance to the University and the applicable time-frames for filing (see “Recommendation,” below).

Further, the procedures describe various elements of the process, but do not actually lay out the process in an easy-to-understand, step-by-step fashion, that clearly distinguishes between the informal and formal phases of the process.

The procedures do, however, distinguish clearly between the processes for complaints brought by MIT employees versus those brought by MIT students, which is necessary as it appears the two processes are very different. The bifurcation between the two processes is helpful to anyone negotiating the processes and may serve as a useful model for other needed clarifications, e.g., distinguishing between the informal and formal stages. It may also be helpful to clarify whether a student employed by MIT, e.g., a Teaching Assistant, should file using the procedure for employees or that for students.

The procedures call for complaint “handlers” to receive complaints. According to the procedures, within seven working days, complaints handlers are to acknowledge receipt “orally or in writing” to the person who filed the complaint. NASA notes that having a written record of a receipt of acknowledgement is standard procedure in administrative complaint systems.

A greater concern is that the procedures dissuade a grievant from seeking legal representation, stating that “[n]ormally, while a complaint is being pursued internally, a complainant is expected to represent himself or herself directly; individuals are free to obtain the support and assistance of a coworker or fellow student or any other MIT associate in presenting their concerns. An MIT associate is a current member of the MIT community, i.e., a student, faculty member, staff member, or other employee, *but not an attorney . . .*”²⁸ This explicit dissuasion from obtaining legal representation is not consistent with the regulatory requirement for an “equitable” process.

The procedures also fall short regarding the requirement to ensure a “prompt” process for complaint resolution. For example, the procedures state that “[a]s a general rule, in cases that are not complex, the complaint should be decided within 75 days after it is received.” NASA does not question the 75-day time-frame, which is not in and of itself problematic. However, what constitutes a “complex” case is never clarified, leaving an open-ended exception to the 75-days requirement. Moreover, the term “should” rather than “shall” adds to the “open-ended” nature of the timelines, making them more or less suggested rather than required. This is evident also in the use of the term “should” regarding acknowledgement of the complaint.

²⁸ MIT Policies and Procedures, Section 9.6, Complaint and Grievance Procedures, accessible at <http://web.mit.edu/policies/9.6.html> (emphasis added).

The procedures state that it is MIT's policy that "individuals will not be reprimanded or discriminated against for initiating an inquiry or complaint" under the procedures.²⁹ However, OCR states in guidance that, because retaliation is prohibited by Title IX, recipients should include a provision in their procedures prohibiting retaliation against any individual who files a complaint or participates in an inquiry.³⁰ MIT does not expressly state that it will not allow *retaliation* against anyone who initiates the inquiry or complaint. Nor does it address reprisal against individuals for *participating* in the process beyond the initiation of the complaint, e.g., being a witness in an inquiry.

Finally, there is a diffuseness to the procedures that is tied to their lack of clarity. By not identifying the basics, e.g., who will do what when, and by not clearly vesting specific responsibilities for specific actions, there appears to be little accountability for the efficient implementation of the process. The procedures list a wide array of available resources that can help students resolve their complaints, among them the Office of Human Resources, the Office of the Dean of Student Life, the Office of Undergraduate Student Education, the Office of Graduate Students, as well as the Special Assistants to the President and the Ombuds Office. While MIT provides a variety of venues for addressing complaints, without some clarification as to which venue is most appropriate for which concern, e.g., HR for employment matters, Office of the Dean of Student Life or related offices for student matters, NASA believes the multiplicity of options may engender confusion as much as it does choice.³¹

(b) Grievance Procedures: Implementation

According to data provided by MIT, no formal Title IX grievances or complaints were filed for the past five years. MIT explained that most complaints are resolved informally, with the assistance of complaint handlers or through the university's Ombuds Program or Mediation Programs. However MIT reports that as these matters are confidential, the university does not keep any statistics on the complaints process. While the confidentiality requirement may prevent identifying students by name in statistical records, it does not prevent maintaining statistics in the aggregate providing, e.g., demographic data. Such data would better serve the university in examining the extent to which EO related issues are occurring among the student population and how best to address such issues (see "Recommendation" below).

²⁹ Complaint and Grievance Procedures, Section 9.6.

³⁰ OCR Revised Sexual Harassment Guidance, § IX. Prompt and Equitable Grievance Procedures

³¹ Regarding its complaint and grievance process, the university states: "MIT's philosophy is to have a multi-door approach to handling complaints, focusing on attempts to resolve complaints of all types at the lowest, informal level. The system is the result of insights and experiences of faculty, staff and students and is designed to provide individuals with a choice of options so that they may select one that is most comfortable for them. As such, this has become a powerful and effective part of the MIT culture. Some of the options are more formal in nature, while others rely on less formal, problem-solving approaches. This flexibility has served MIT and its community well over the years as is evidenced in the lack of formal Title IX complaints. In sum, the current grievance process at MIT is the product of its unique collegial culture and history. It is not a top down process that was established by administrative fiat. Review and revisions require consultation and consensus among interest constituencies who have helped to shape the current system. See Alison Alden, Vice President for Human Resources, letter to NASA ODEO re: Title IX Compliance Review Report of the MIT Physics Department, January 14, 2008 (hereafter cited as Alden letter).

MIT reports that it encourages students to raise concerns with the appropriate authorities, e.g., issues with living situations should be addressed to graduate residents or housemasters. Broader concerns should be raised directly with professors, departmental advisors, immediate supervisors, Campus Police, or other Institute officials, as appropriate.

The process for filing complaints depends on complaint handlers as the “first responders” to allegations of discrimination, harassment or unfairness. Specifically, student assistants, team leaders and graduate assistants are briefed on their responsibilities as complaint handlers. As such their job is to hear complaints and take “appropriate action” based on their perception regarding the appropriate level of intervention. Along with all other faculty and students, the complaint handlers are notified annually of the Department’s policies on sexual harassment and discrimination, among others, and the need to address complaints or concerns that individuals bring.

However, while interviews with faculty and students designated as complaint handlers revealed a commitment to make the process work, the complaint handlers stated that they did not receive any formal training in performing the duties of this important role. Currently, it appears the specific method for intervention is left to the discretion of each handler. Without some form of training, the handler may not know how to effectively deal with specific complaints, e.g., explaining how the process works.

In several instances the handlers stated that they would refer the complaining individuals to “other university resources” or “other appropriate channels” if they did not believe they were equipped to counsel and provide advice. However, when asked which other resources or channels they would utilize, the majority did not appear generally knowledgeable as to what options were available. Among those who did mention specific alternative avenues, the Ombuds Office and Office of Human Resources were mentioned. Nonetheless, the complaint handlers interviewed indicated that they were aware of their general responsibilities and felt that they could effectively address the immediate needs of complaining parties in the grievance process.

While NASA recognizes that its interactions with MIT complaint handlers were limited to those in the Physics Department, these interactions with the Physics complaint handlers are nonetheless of particular concern to NASA in light of the Department of Education Office for Civil Rights guidance stating that recipients must ensure that all designated employees have adequate training as to what conduct constitutes discriminatory harassment and are able to explain how the grievance procedure operates to potential grievants.³²

NASA finds that MIT’s grievance procedures, both as written and implemented, need to be substantially improved to ensure prompt and equitable resolution of complaints alleging actions prohibited by Title IX. However, NASA notes that MIT recognizes its current grievance process should be reviewed and can be improved.³³ NASA is pleased to note that MIT reports it had established a working group, prior to NASA’s Title IX compliance review of the Physics Department, that has been reviewing present policies and procedures regarding complaint

³² See OCR, Revised Sexual Harassment Guidance, § IX. Prompt and Equitable Grievance Procedures.

³³ See Alden letter.

handling.³⁴ MIT reports that “[t]his group will carefully consider [NASA’s] recommendations regarding the revision of the process. It is presently working on revising the complaint handling process for complaints raised by or against faculty and staff and will take [NASA’s recommendations] as one set of guidelines for the review.”³⁵

Further, MIT reports that it has completed its review and revision of its Guidelines for Raising Complaints of Harassment. NASA is pleased to note that this document responds to some of the concerns raised based on our Title IX review. For example, the guide now clearly states students’ rights to file a complaint with external agencies, that complainants “may consult with an attorney on their own before or after any meeting at MIT,” and provides a list of resources available to address harassment issues (see also Section F, “Policies/Student Experiences Relating to Parental/Marital Status (“Family Friendly”), Safety, and Sexual Harassment,” below).

Finally, MIT reports that the Office of the Dean of Student Life has several orientation programs and other educational programs for residence life, student life and other student leaders, which include diversity and other awareness training as well as how to handle complaints by students. MIT reports that outreach to undergraduate students occurs extensively in their residential communities with approximately 97 percent of the undergraduate population residing in MIT affiliated housing. In the on-campus residence halls, the faculty housemasters and graduate resident tutors (GRTs) who reside with the students have three days of training in August prior to the start of the year. The Resident Advisors in the fraternities and sororities have two days of training also in August. Training covers topics such as: communications skills, effective rapport building and listening, how to recognize issues/concerns, how to make a referral to the appropriate resources at MIT, and follow-up with the student.

At the graduate level, MIT reports that it implements the Resources for Easing Friction and Stress (REFS) Program, which exists in five graduate programs, including Physics, and is supported by faculty advisors in each area as well as the resource of the Mediation Coordinator. The purpose of the peer program is to serve as an accessible, supportive first contact for students who is trained and knowledgeable regarding MIT resources and thus is able to provide a referral as well as encouragement to the student in seeking assistance (see “Promising Practices,” below).

(c) Title IX Policy Dissemination

NASA Title IX regulations require grant recipients to take specific and continuing steps to notify students, employees, applicants for admission and employment, and unions or professional organizations having collective bargaining or professional agreements with the recipient, that it does not discriminate based on gender in the educational programs or activities that it operates, and that it is required by Title IX not to discriminate in such a manner.³⁶

³⁴ Ibid.

³⁵ Ibid.

³⁶ Dissemination of policy, 14 C.F.R. § 1253.140.

DOJ regulations make federal funding agencies and recipient institutions responsible for disseminating information materials, e.g., handbooks, manuals, pamphlets, to ensure program beneficiaries are aware of their rights pursuant to EO law.³⁷ In addition, OCR states in guidance that “[a] grievance procedure . . . cannot be prompt or equitable unless students know it exists, how it works, and how to file a complaint.”³⁸

MIT posts its equal employment opportunity policy statement in the Human Resources offices and ensures its distribution to all new employees at orientation. The notice is prominently posted on bulletin boards throughout campus. In addition, MIT’s non-discrimination policies are published on the Internet at www.web.mit.edu/policies. These policies also are disseminated to students each semester via the Course Catalog and the *Mind + Hand + Book* student handbook (see “Promising Practices” below).

Physics graduate students with whom NASA spoke tended to not be aware of the specific requirements of Title IX or the name of the Title IX Coordinator. However, all were aware that numerous resources were available to them for filing a complaint or grievance. Among the Physics faculty members with whom NASA spoke, all were familiar with Title IX. In a few cases, faculty members stated that NASA providing a copy of the 2004 GAO report on Title IX compliance (see I.A.2. above) prior to the on-site greatly enhanced their understanding of why NASA was conducting the review and its implications for better ensuring gender equity.

2. *Recommendations*

Grievance Procedures:

(a) MIT should revise its complaint and grievance procedures, using as a model its newly revised Guidelines for Raising Complaints of Harassment. At a minimum, MIT’s revised complaint and grievance procedures should:

(i) Clearly lay out the processes for informal and formal complaints;

(ii) Clearly lay out the roles and responsibilities of the complaint handlers and other key actors, e.g., investigators, in the process;

(iii) Clearly lay out the differing roles and responsibilities of the different venues for filing complaints, e.g., HR, Ombuds, perhaps including some examples of which kinds of matters are most appropriate for which offices;

(iv) Clarify that timelines will be met as stated and any exceptions, e.g., “complex” cases, “circumstances that justify a longer time to investigate and decide the complaint” are clearly defined, and/or examples are provided;

(v) Indicate when critical steps in the process, e.g., receipt of acknowledgement, shall be in writing;

³⁷ Public dissemination of Title VI information, 28 C.F.R. § 42.405(c).

³⁸ OCR, Revised Sexual Harassment Guidance, § IX. Prompt and Equitable Grievance Procedures.

(vi) Remove language dissuading complainants from seeking legal representation; clarify that parties have a right to consult with anyone including attorneys, although MIT may exclude attorneys from *direct* participation in its internal procedures;

(vii) Remove language that makes it unclear as to whether an action is required or recommended, i.e., replace “should” with “shall;”

(viii) Clarify, after the statement that individuals will not be reprimanded or discriminated against for initiating an inquiry or complaint, that the university will not tolerate retaliation for initiating or participating in the grievance process, e.g., “[T]his means that an individual may not be retaliated against for either bringing a complaint or participating in the process outlined in these grievance procedures;” and

(ix) Include specific information on students’ rights to file a complaint with the U.S. Department of Education’s Office for Civil Rights or other Federal agencies providing financial assistance to the University, and the applicable timeframes for filing.

(b) MIT should provide all faculty members, Research Assistant (RAs), and Teaching Assistants (TAs) with some form of formal training on EO requirements, including discrimination and harassment. MIT should consider developing a more comprehensive training module for international faculty and RAs/TAs, who may be less familiar with U.S. civil rights laws than their American-born counterparts.

(c) MIT should train complaint handlers more thoroughly to ensure that protocols for intervention are clearly understood and that there is consistency of response among the handlers. This may include workshops or briefings to provide guidance to complaint handlers on options for addressing concerns brought by a grievant or potential grievant.

(d) MIT should institute a reporting system to document the timely responses to allegations that are brought to the attention of the complaint handlers. MIT should maintain statistics in the aggregate, providing for example, demographic data on complaints to assist the university in examining the extent to which EO related issues are occurring among the student population and how best to address such issues.

Title IX Policy Dissemination:

(e) MIT should provide detailed information about Title IX policy and contact information for the Title IX Coordinator to all students. It appears a number of MIT publications include statements about the Harassment Policy, but these references do not mention Title IX specifically.

(f) MIT should ensure that students are aware that they may file a complaint directly with the Department of Education Office for Civil Rights or other Federal agencies providing financial assistance to the university and that filing a complaint with a Federal agency does not prevent the complainant from seeking redress through the university’s internal grievance procedures as well.

(g) MIT should ensure that students are aware that they may file a complaint directly with the Department of Education Office for Civil Rights or other Federal agencies providing financial assistance to the university and that filing a complaint with a Federal agency does not prevent the complainant from seeking redress through the university's internal grievance procedures as well. To do so, MIT should disseminate annually to all university employees and students the Department of Education Office for Civil Rights brochure "How to File a Discrimination Complaint with the Office for Civil Rights, accessible at <http://www.ed.gov/about/offices/list/ocr/docs/howto.html?src=rt>, and the brochure, "Title IX and Sex Discrimination," accessible at http://www.ed.gov/about/offices/list/ocr/docs/tix_dis.html.

3. *Promising Practices*

Grievance Procedures:

(a) The practice of having faculty, staff and graduate students serving as complaint handlers sends a clear message that the campus community as a whole, rather than one individual or office, has a responsibility to be vigilant and proactive in eliminating or preventing discrimination and harassment.

(b) The Physics Department has developed a program that is designed to address student complaints at an early stage. The program is called the Physics REFS Program (<http://web.mit.edu/physics/refs/>), a student-run mediation program that provides advice, support and dispute resolution based on mediation principles. Four students in the Physics Department currently have earned mediation certifications and serve as Physics REFS. Two faculty members serve as advisors.

Title IX Policy Dissemination:

(c) The Physics Department has forwarded an electronic version of the NASA brochure, "Nondiscrimination and Equal Opportunity in NASA Assisted Programs: Title VI of the Civil Rights Act of 1964 and Related Laws," which includes specific information on Title IX, to current students in the Department working on NASA-funded research and has agreed to make it a practice to forward the brochure at the beginning of each academic year.

C. Title IX Self-Evaluation

1. *Compliance Assessment*

The NASA Title IX regulations required recipient institutions to conduct a Title IX self-evaluation by September 29, 2001 and to keep the self-evaluation on file for three years.³⁹ While MIT is not obligated to conduct a further Title IX self-evaluation, such evaluations are very helpful to ensure, for example, that selection criteria or academic practices are not having an adverse impact based on gender. They also provide an opportunity to evaluate trends over time and develop mechanisms for addressing emerging issues.

³⁹ Self-evaluation, 14 C.F.R. § 1253.110(c).

NASA notes that MIT performs ongoing evaluations of academic and administrative policies. For example, the Graduate School conducts a bi-annual survey of students with data disaggregated by gender and other factors for the School of Science. Upon request, the Physics Department provided NASA with data from this survey broken down to the Departmental level.

The Graduate School Survey provides much useful information that can be used in shaping academic policy and practice that is responsive to student concerns relating to gender and other factors. For example, the results of the 2004 Graduate School survey show that 29.8 percent of surveyed women identified race, gender, national origin, religion or sexual orientation as a minor or major obstacle to their academic experience, while only 10.9 percent of surveyed men did so. NASA notes that because the survey question was formulated to encompass a number of other factors, as well as gender, it is difficult to determine the specific role played by each factor in the responses (see “Recommendations” below).

Finally, in responding to NASA’s information request, and working closely with NASA in the preparation of our on-site review, NASA considers the Physics Department to have conducted a very thorough Title IX self-evaluation. Specifically, MIT and especially the Physics Department, gathered and synthesized significant amounts of data, including statistical data by gender in the areas of admissions, enrollment, and retention, as well as extensive information on policies and procedures.

2. *Recommendations*

- (a) MIT should revisit the questions on its Graduate Survey regarding perceptions on race, gender, and other demographic factors, to disaggregate each factor and to develop follow-on questions to determine with more specificity the issues relating to each.
- (b) The Physics Department should disseminate information regarding this Title IX compliance review to key stakeholders within the MIT community. For example, the Physics Department should conduct a briefing on the NASA Title IX compliance review, including relevant observations, recommendations and promising practices identified, for stakeholders such as the Human Resources Department, School of Science leadership, and the MIT Women’s League.
- (c) The Physics Department should participate in the American Physical Society Committee on the Status of Women Site Visit Program (see Section I.C.2., above).

3. *Promising Practices*

- (a) MIT regularly administers surveys, including regular surveys of students, and other means of gathering information on a host of issues that can be used to inform academic policy and practice. For example, the Physics Department conducts Graduate Program Surveys that are sent to accepted students who decline enrollment at MIT. The survey asked students who decided not to attend the MIT Physics Graduate Program their primary reason for declining to attend, any improvement the students felt should be made to the MIT Physics Open House and the school they decided to attend instead. By asking these questions and tracking the responses, the MIT

Physics Department provides itself with an important self-evaluation tool whose uses include making more informed decisions on ways to increase women’s participation in the program.

(b) The Physics Department Chair invites a Visiting Committee, which advises on all aspects of education, research and administration, including equal opportunity and diversity related matters, to come to the Department every two years. The Visiting Committee hears concerns raised by both faculty and students. The results of the Visiting Committee’s assessment are submitted to the Physics Council which then uses them in developing Department policy.

D. Recruitment, Outreach, Admissions, Enrollment and Retention

1. Compliance Assessment

The NASA Title IX regulations state that recipients may not discriminate on the basis of sex in admissions and recruitment.⁴⁰ Because MIT is a private university, Title IX and NASA’s Title IX regulations at 14 C.F.R. §§ 1253.300 (Admissions) and 310 (Recruitment) do not apply to MIT’s undergraduate admission practices. Consistent with this requirement, NASA examined male and female participation rates at the graduate level in the areas of admissions, acceptances, enrollments, graduate fellowships, teaching assistantships and research assistantships. NASA also focused on undergraduate enrollment and undergraduate research opportunities.

(a) Undergraduate Students

The Physics Department undergraduate student enrollment for Academic Year (AY) 2006-07 was 210 students (see Table E-1). Of these, 63 (30 percent) were women. As the total number of declared physics majors has increased over the past five years, so has the total number of female students, growing from 45 to 63 students. Except for a slight dip in AY 2004-05, the percentage of female undergraduate physics majors has remained at around 30 percent for the past five years.

Table E-1. Undergraduate Physics Enrollment by Gender, 2002-2007

	2002-03	2003-04	2004-05	2005-06	2006-07
Female	45	55	52	61	63
Male	103	123	133	139	147
Total	148	178	185	200	210
% Female	30.41%	30.90%	28.11%	30.50%	30.00%

Source: MIT Physics Department

Retention rates for the program show that the number of students who left the Physics Department by changing majors ranged between 5 and 11.7 percent. However, women have generally left the Physics Department at a rate higher than their overall percentage in the program. In three of the years reviewed (AYs 2002-03, 2003-04 and 2006-07), women were 33 to 38 percent of those who left, compared to being approximately 30 percent of the enrollees. In

⁴⁰ Admission, 14 C.F.R. §1225.300; Recruitment § 1253.310.

two of the years, AY 2004-05 and AY 2005-06, women were a smaller percentage of those who left (26 and 18 percent, respectively).

Overall, the Physics Department appears to be conducting aggressive outreach efforts regarding female middle and high school students. These efforts are meeting with success, judging by the comparatively high female enrollment in the undergraduate program (see “Promising Practices,” below). However, NASA is concerned about the fact that undergraduate women are leaving the program in greater rates than their overall enrollment (see “Recommendations,” below).

(b) Graduate Students

In AY 2006-07 there were 256 students enrolled in the Physics graduate program, including 34 women (13.28 percent) (see Table E-2). In the four previous academic years, the average percentage of female graduate students was 12.38 percent, peaking at 12.93 percent in AY 2005-06. Aside from a dip in AY 2004-05, the number of female students is improving. NASA notes with concern, however, that the gender diversity in the graduate physics program is significantly less than the gender diversity in the undergraduate program.

Table E-2. Graduate Physics Enrollment by Gender, 2002-2007

	2002-03	2003-04	2004-05	2005-06	2006-07
Female	32	32	28	30	34
Male	220	221	221	202	222
Total	252	253	249	232	256
% Female	12.70%	12.65%	11.24%	12.93%	13.28%

Source: MIT Physics Department

NASA notes that the enrolled vs. accepted rate is lower for female applicants than for male applicants. The overall acceptance rate for females from AY 2002-2006 ranges from 13.79 percent to 23.61 percent, and is higher than the approximately 13 percent of females in the graduate Physics program.

The Associate Department Head for Education reports that once equal backgrounds and merits have been determined among the pool of graduate applicants, the Graduate Committee looks to gender among other factors to make a final decision. As a result, although women apply at lower rates, the admittance rates are close.

The Physics Department supports several forms of financial assistance packages, including fellowships, research assistantships (RAs), or teaching assistantships (TAs). For incoming graduate students, all funding decisions are determined during the admissions processes. NASA notes that there is no evidence that one gender is being treated differently or adversely impacted with regards to graduate financial assistance. For example, data provided by MIT show that female graduate students receive fellowships at a higher rate than male graduate students. Also, during the past five years, fellowships have been awarded to women at higher rates than their presence in the graduate program, with women receiving 20.6 percent of the available fellowships over the past five academic years, with a peak of 24.14 percent in AY 2005-06.

The percentage of women receiving RAs from AY 2002-2007 is 12.81 percent, nearly identical to the average percent of females in the program. In addition, women receive fewer of the less desirable TA positions than men. On average, women have received 10.14 percent of TAs, with AY 2006-07 dipping to 5.71 percent.

Retention of female graduate students does not seem to be a problem for the Physics Department. In the past five years, only two women left the program, and that occurred in a year in which five men also left the program. In addition, recruitment efforts in the graduate context, while not insubstantial, appear to be having less success, evident in the consistently low numbers of women students in the graduate program.

NASA discussed the low numbers of graduate women with several faculty members. Faculty noted that it is hard to know why the numbers remain low despite efforts to increase them. Faculty stated that while it is impossible to know why so few women enter the graduate program that they suspect a number of reasons. For example, several faculty members stated that they believe family issues are a critical factor and that for those women planning a family, pursuing a Ph.D. in Physics and, ultimately a tenure track in the field while dealing with family issues may be a deterrent to some.

According to some faculty and students interviewed, another factor that may be working against MIT with regards to the significantly lower numbers of women in the graduate program, compared to the undergraduate, is MIT's informal policy of encouraging their undergraduate students to attend graduate school at a different institution, in order to broaden their educational experiences. An undesirable consequence of this policy is that MIT's successful undergraduate physics female students are unlikely to be recruited or admitted into MIT's graduate physics program. MIT is not taking advantage of its own success at the undergraduate level, in terms of female participation.

Finally, NASA notes that a review of the Physics Department website shows a number of images of male physicists and physics students at work; however, there are very few if any similar images of women. The website does show face pictures of women, for example the faces of members of the Women in Physics Program, but NASA notes that more images of women physicists at work both on the website and in other communications materials may help to show potential candidates that the Physics Department values the contributions of all its students equally (see "Recommendations," below).

In summary, NASA found no evidence of differential treatment based on gender with regard to recruitment, admissions, enrollment or retention in graduate Physics programs, or with respect to enrollment and research opportunities in undergraduate programs. Nor did NASA's review indicate that the Physics Department has a neutral policy or practice that is unintentionally contributing to the numerical differences between men and women in graduate enrollment.

2. *Recommendations*

(a) The Physics Department should expand recruitment efforts to increase the number of women enrolled in its graduate program.

(b) The Physics Department should carefully review and analyze data gathered pursuant to this Title IX review, and continue to collect and study such data, especially data pertaining to admissions and enrollment.

(c) The Physics Department should explore why undergraduate women are leaving the program in higher rates than their enrollment to determine if there are steps that may be taken to reduce the number of female students leaving the program.

(d) The Physics Department should include images of both men and women physicists and physics students at work on its website and in other outreach/communications materials. One faculty member suggested publicizing the success of female Ph.D. graduates from the Physics Program to students, so they become aware of role models in the field.

3. *Promising Practices*

(a) The Physics Department offers two different programs leading to a Bachelor of Science in Physics, giving students the opportunity to tailor their study to their individual career goals. Since the inception of the flexible option, the enrollment of female undergraduate physics majors has increased significantly.

(b) MIT offers Path of Professorship, a career development program sponsored by the Graduate Student Office and planned by the Associate Dean. The program focuses on faculty development for women graduate students and post-doctoral researchers. Workshops are lead by women faculty, department chairs, deans, and provosts from MIT and other local universities.

(c) The Physics Department reimburses up to \$300 in travel expenses for graduate candidates and fully reimburses female candidates for travel expenses in the U.S. to attend the two-day Open House following their acceptance to the program.

(d) Through the A. Neil Pappalardo Fellowship program, a distinguished postdoctoral fellowship program that identifies, recruits and supports the most talented and promising young physicists at an early state of their careers, MIT has consistently interviewed and made offers to highly-qualified female candidates at a higher rate than the fraction of women in the applicant pool.

E. Academic Environment: Advising, Career Counseling, Research Participation and Classroom Experiences

1. *Compliance Assessment*

The NASA Title IX regulations provide that a recipient shall not, on the basis of sex, exclude from participation in, deny the benefits of, or otherwise limit any person in any advantage or opportunity pertaining to academic, extracurricular, research, occupational training, or other education program or activity operated by the recipient.⁴¹ The Title IX regulations explicitly

⁴¹ Education programs or activities, 14 C.F.R. § 400(a), (b)(7).

state that a recipient may not discriminate on the basis of gender with regard to career counseling or guidance.⁴² In addition, the Title IX regulations incorporate by reference the NASA Title VI regulatory provision prohibiting a recipient from utilizing methods of administration which have the effect of defeating or substantially impairing accomplishment of the objectives of the program for an individual based on sex.⁴³ On the basis of these provisions, NASA examined the overall academic environment in the Physics Department, including academic advising, career counseling, research participation and classroom experiences.

(a) Academic Advising and Career Counseling

At the undergraduate level, each declared Physics major is assigned a faculty advisor, based on the student's self-identified research interests. To the extent possible, students are matched with a faculty advisor in that area of interest. Students can ask for a change of advisor. At the graduate level, students are paired with the faculty member doing research in their chosen area.

Students interviewed did not report observing or experiencing any difference in the advising process relating to their gender. However, faculty members noted that, in both their advising and teaching roles, they have observed a problem for women in the Physics program relating to their confidence in their abilities. Several faculty members reported that in their experience, male students tend to be over-confident while female students tend to underestimate their abilities.

To address this issue in the advising context, one professor stated that he consciously uses positive reinforcement and can be "liberal with praise" in his interactions with advisees. He stated that he believes the confidence issue is an "initial mindset" and that part of the remedy for the problem is appropriate intervention by advisors and other mentors.

(b) Research Participation/Classroom Experiences

NASA examined whether students were treated differently or otherwise limited, on the basis of gender, with regard to research participation and in their classroom experiences, including whether there was any indication of sexual harassment by faculty or graduate students in positions of responsibility.

MIT reported that 53 physics students (including both graduate and undergraduate students) have worked on research projects since AY 2002-2003. Of the 53, 18 were female [34 percent]. These numbers reflect that women physics students are participating in physics research in higher numbers than their enrollment in the program. Also, of the graduate students working at the Kavli Institute for Astrophysics and Space Research, 15.31 percent are female, which is slightly higher than their percentage of total graduate students.

The majority of undergraduate Physics students participate in Undergraduate Research Opportunities Program (UROP), selecting research projects based on their research interests. In addition, undergraduate students are free to work with any group that has space for them in the

⁴² Counseling and use of appraisal and counseling materials, 14 C.F.R. § 1253.425.

⁴³ Enforcement procedures, 14 C.F.R. § 605.

lab and funding. Physics majors participate in UROP projects in the Physics Department as well as in other departments, centers, and labs across MIT. The Department plays no role in undergraduate funding decisions; those are determined by MIT's Financial Aid Office.

Anecdotal information received by NASA from faculty and students interviewed offered perspectives on gender in the physics lab and classroom. For example, several female graduate students pointed to what they described as a subtle but systemic gender bias in which women are not taken as seriously as scientists if they are considered "too attractive," and that offensive comments made can pertain to how a woman colleague looks, either because she is too attractive or not attractive enough. In both cases, the focus is on her looks and not her abilities. One female graduate student noted that as the junior member of a lab team, and the only woman, she had to "toughen up" and become more immune to criticism, particularly criticism unrelated to her abilities.

NASA also heard from male interviewees about what one male faculty member referred to as "residual sexism," that can still exist in the lab and in the classroom. This faculty member stated that there is a "guy language" sometimes used "in circles where there are relatively few women." Another male interviewee, a graduate student, noted that while he believes women have an equal chance of being accepted to and doing well at MIT, he thinks there are "lingering perceptions" at the societal level about women having innately less ability in the sciences, and used as an example statements made by former Harvard President Larry Summers in 2005, widely reported in the media.

The vast majority of interviewees agreed that gender bias, to the extent that it is present, is largely unconscious and unintentional in nature. Faculty members stated that the Physics Department has taken proactive steps to raise consciousness about gender issues. For example, MIT recently invited the University of Michigan's Center for Research on Learning and Teaching (CRLT) to present a sketch on subtle gender bias at a faculty lunch. The sketch, "Gender in the Classroom," is among a number of others University of Michigan's CRLT regularly performs to raise awareness on equal opportunity related issues. "Gender in the Classroom" specifically treats issues of gender bias that may arise in the classroom setting. Following performance of the sketch, there is a facilitated dialogue with the audience to help develop recognition of and ability to deal with gender bias in the classroom.

In terms of classroom experiences, students interviewed reported that they did not notice differences in the way male and female students are treated by faculty members. Students believed that professors were generally responsive and encouraging of participation regardless of the student's gender.

However, the relative lack of confidence in ability among some women students, referred to above, emerged as a theme in the interviews NASA conducted. For example, one professor spoke about the need for women students to be drawn out more in class, while male students were more likely to cut off their peers in discussion. One faculty member observed that male students tended to be more competitive, while female students were more collaborative. Several female graduate students acknowledged that they have felt a need to be more aggressive in the lab setting.

Other faculty and students, both men and women, stated that they observed no gender differences with regard to interactions in the lab or classroom participation. It appears the only consensus among faculty and students is that the academic experience for Physics students, particularly at MIT, can be very high-pressure and very competitive regardless of gender.

It appears also that, just as the Physics Department has taken proactive steps to raise awareness on gender issues, it has been proactive in efforts to provide a greater sense of community for women students through the student-run Women in Physics (WIP) program, which provides resources, advice, mentoring, and networking opportunities (see “Promising Practices,” below).

The Physics Department also has been proactive in curricular modifications designed in part to increase the appeal of the program for women. For example, recognizing that women were leaving Physics to go into related fields such as planetary sciences, the Physics Department developed a more flexible undergraduate degree program, so that students would have greater flexibility in choosing their area of interest while staying within the Physics program. The flexible program has proven very successful among women in the undergraduate program, and has helped to increase the number of women in the undergraduate program.

Another innovation mentioned by several faculty members is Technology Enabled Active Learning, or TEAL. The TEAL model replaces the lecture-recitation model with a studio-based system in which students work together in groups of three, with a computer and an apparatus to conduct an experiment. There may be three groups sitting around a large table so that students have a chance to interact.

Based on its review, NASA finds that the Physics Department affords equal opportunities to both male and female physics students to participate in research and classroom learning, in part through proactive efforts to make the program more appealing to a diverse student body.

(c) Overall Academic Environment

Despite these efforts, challenges remain in creating a more welcoming and inclusive environment for women students. For example, there are very few women professors in the Physics Department. Of 91 faculty members shown on the Department web site Faculty Facebook, six are women. Of these, one is an “Institute Professor,” two are full professors, two are associates and one is an assistant professor. As a result of the small numbers, there are semesters when no women faculty are teaching because they are engaged in research, thus limiting their visibility even more for students who are not participating in research projects (mainly undergraduates). More than one student told NASA that they had never had a physics class taught by a woman professor, which also has the potential to discourage female students from considering or pursuing a career in academia.

Several faculty and students offered theories as to why there are still so few women professors. For example, one professor pointed out that it has been difficult to retain female faculty members, who are often hired away with better offers. Another factor here appears to be what several interviewees referred to as the “two body problem.” This refers to women faculty

members making the decision to leave the department to follow their spouses to other geographical regions in support of the spouse's career.

Beyond the continuing small numbers of women faculty, NASA is concerned because there is a perception among some female physics students that women are not performing as well on the "general examination" that physics graduate students must pass to remain in the program. The general examination is designed to "assure the Department that its graduates have a broad background in physics and a firm understanding of a particular branch of physics."

The exam consists of three parts, administered at different points during the program. Parts I and II are five-hour, written examinations. Part III is an oral exam and is approximately two hours long. The faculty group that develops the exams and the group that decides who passes are representative of the gender distribution in the MIT Physics faculty. The Physics Department does not specifically ensure that there is a woman in each faculty group because to do so would place an undue service burden on the women in the department. NASA notes that this is one issue, among others, that could be addressed with the addition of more female Physics faculty members.

Several women students expressed the belief that women as a group do not fare as well on these exams as men. These students pointed to anecdotal information about peers who had experienced difficulty passing the exams. In some cases, the students who had done poorly or who were concerned that they would do poorly, had opted to leave the program. The instances of female students leaving the program because of anxieties about the tests, *without yet having done poorly*, raises a concern because it is consistent with the overall theme of women physics students at MIT sometimes lacking the confidence displayed by their male peers. As stated, NASA heard about the "confidence" issue several times from students and faculty of both sexes.

In addition, students who believed that women were not passing the general examination at the same rate as men, indicated that requests to see the statistical data on pass rates kept by the Department had not been granted. The Physics Department informed NASA that, despite the perception that women are not doing as well as men on the exams, overall this is not the case. The Physics Department provided these statistics to NASA upon request. A review of these data confirm that women are faring as well as men on the exams. While there are some fluctuations in the data over the five-year period for which it was provided (2002-2006), there is no indication of a disparate impact based on gender in the pass-fail rates. It appears that the issue the Department may wish to explore is the reason why the perception exists (see "Recommendations," below).

2. *Recommendations*

(a) The Physics Department should include gender-related items in course evaluations, exit interviews with graduating students, and other means of gathering information, to better determine and respond to students' issues and/or perceptions relating to gender in any aspect of the program (e.g., "do you feel any program opportunities were limited or unavailable to you because of your gender?").

(b) The Physics Department should continue to take aggressive steps to increase the number of female faculty, including benchmarking with programs that have been successful in recruiting and retaining greater numbers of female faculty. If women candidates are going to other schools because they are receiving better offers, why can't MIT make better offers?? MIT is the premiere physics school in the country, if not the world. As such, it should be the first choice of any physics professor, male or female, looking for a position. In terms of the "two body" issue, MIT may need to do a better job of helping husbands to find work in the Cambridge/Boston area.

3. *Promising Practices*

(a) The Physics Department funds the student-run Women in Physics (WIP) program to foster community among women graduate students, postdoctoral researchers and faculty members in the Physics Department. WIP provides networking and mentoring opportunities for female graduate and undergraduate students. Due to the efforts of WIP, a special room for women graduate students is planned for the new space that houses the Physics Department on the Main Campus of MIT.

(b) Physics Department faculty receive feedback from counselors with MIT's Student Support Services on the kinds of academic issues students raise, which helps faculty to be more effective in their interactions with students, e.g., make adjustments in their teaching style.

(c) MIT ensures that all faculty search committees are gender diverse, pursues promising female candidates by tapping professional networks and conducting personal outreach, and prepares detailed reports justifying candidate selection.

F. Policies/Student Experiences Relating to Parental/Marital Status ("Family Friendly"), Safety, and Sexual Harassment

1. *Compliance Assessment*

The NASA Title IX regulations include a detailed provision on matters pertaining to marital and parental status.⁴⁴ Generally, under the regulations, a recipient may not apply any rule concerning a student's actual or potential parental, family, or marital status that treats students differently on the basis of sex. Regarding pregnancy and related conditions, the regulations state that a recipient may not discriminate against any student, on the basis of the student's pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery, unless the student requests voluntarily to participate in a separate portion of the program or activity of the recipient.

In addition, the NASA Title IX regulations provide that a recipient shall not, on the basis of sex, limit any person in any advantage or opportunity pertaining to academic, extracurricular, research, occupational training, or other education program or activity operated by the recipient.⁴⁵ The Title IX regulations incorporate by reference the NASA Title VI regulatory provision prohibiting a recipient from utilizing methods of administration which have the effect

⁴⁴ Marital or parental status, 14 C.F.R. § 1253.530.

⁴⁵ Education programs or activities, 14 C.F.R. § 400(b)(7).

of defeating or substantially impairing accomplishment of the objectives of the program for an individual based on sex.

In light of these provisions, NASA examined MIT policies/procedures and student experiences in the Physics Department regarding parental/marital status, safety issues, and sexual harassment.

(a) Parental/Marital Status

At the faculty level, a maternity/paternity leave program is in place that allows all faculty members a release from teaching with full pay for a semester to care for a newborn or newly adopted child. MIT has a graduate maternity leave policy, providing female graduate students with up to eight weeks of paid maternity leave. However, while child care is available on campus, graduate students must get in line behind faculty members to access these coveted services.

Nonetheless the Physics Department as an organization appears very supportive of family and child care issues affecting its graduate students. One professor stated that when two of his graduate assistants were pregnant at the same time, the Department set aside an office/lab space as a nursery which was used until both children were walking.

(b) Safety

MIT's most recent undergraduate survey indicates that 84 percent of graduating seniors were generally satisfied with services provided by the campus security and campus police. However, the 2004 School of Science Graduate School Survey referenced above indicates that female graduate students felt less safe on campus than men, particularly at night, with 97 percent of male graduate students reporting they felt safe or reasonably safe working in a lab or office at night, and 77 percent of female graduate students reporting that they felt safe.

There was a similar difference in attitudes toward feeling safe walking on campus at night; 96 percent of men felt safe, while only 74 percent of women did. The greatest difference was seen in how safe students felt walking off campus at night. Only 72 percent of men felt at least reasonably safe, compared to only 39 percent of women who did.

These differentials in the feeling of safety while working in a lab late at night, while not necessarily indicating that students felt their participation in the program was limited in any way due to safety concerns, do raise a concern. The survey's findings indicate the need for the Physics Department and other MIT science departments to look further into whether additional steps to protect the physical safety of program participants may be needed (see "Recommendations," below).

(c) Sexual Harassment

MIT's Policy on Harassment emphasizes that harassment of any kind is not acceptable behavior at MIT; that such behavior is inconsistent with the commitment to excellence that characterizes MIT's activities; and that any member of the MIT community who feels harassed is encouraged

to seek assistance and resolution of the complaint.⁴⁶ In these respects the policy is consistent with Federal guidelines for addressing harassment.⁴⁷

MIT reports that it has recently completed a review and revision of its Guidelines for Raising Complaints of Harassment which has been posted on the university's website.⁴⁸ This new document responds to some of the concerns NASA has raised regarding MIT's general "Complaint and Grievance Procedures." For example the guide clearly states students' rights to file a complaint with external agencies, resources available and statutes that are relevant to such issues. NASA finds that MIT's harassment policy statement and guidance is appropriately disseminated at both the Institute and Physics Department levels (see "Promising Practices," below).

MIT reported that no students in the Physics Department have filed formal grievances of sexual harassment during the period reviewed (AYs 2002-2006). However, some female students NASA interviewed acknowledged that they sometimes struggle against perceived stereotypes of women in the sciences that are borne out in inappropriate remarks. NASA heard from students about isolated incidents involving such remarks. For example, one female graduate student reported a male graduate student once commented to her, "Oh, I thought you were a secretary." Another woman explained how, when she was upset after failing an exam, a male student tried to console her by saying, "Do not worry, you are beautiful." The female student noted that because the male student was from another country, she attributed the remark in part to cultural differences between Western and Eastern societies.

However, long-time female faculty members noted that they have observed a sea change in behavior over the course of their careers. These faculty members noted that what was once considered acceptable behavior is now considered harassing, sometimes egregiously so. They noted that MIT, like many other institutions, has "come a long way," in terms of recognizing and addressing the issue.

Overall, NASA found no indication of sexual harassment occurring within the Physics Department. However, further efforts by the Department to ensure greater awareness among members of the Physics community, particularly students, may be appropriate (see "Recommendations," below).

Finally, NASA heard about a noteworthy instance in which the MIT Physics community, led by the Women in Physics (WIP) program, recently took coordinated action regarding an inappropriate image shown on the cover of an optics company publication. The image showed a barefoot woman wearing a low-cut blouse and short skirt while lying next to a fiber coupler, with the tag-line "Red-Hot Optics." Women faculty members and one male student joined with WIP

⁴⁶ See MIT Policies and Procedures, Section 9.5, MIT Policy on Harassment, accessible at <http://web.mit.edu/policies/9.5.html>.

⁴⁷ See, e.g., OCR Revised Sexual Harassment Guidance.

⁴⁸ The guidance is available at <http://web.mit.edu/communications/hg/>.

and asked to be included in the letter of complaint to the publisher.⁴⁹ (see “Promising Practices,” below) The publisher responded with a letter of apology.

2. *Recommendations*

Parental/Marital Status:

(a) MIT should consider expanding the maternity leave program by instituting family leave for all graduate school students, regardless of gender. This would make the graduate student policy as family friendly as the faculty policy.

Safety:

(b) The Physics Department and other science departments should take note of the Graduate Survey’s findings to determine whether additional steps should be taken to ensure that all program participants feel safe working in the lab or the office late at night.

(c) The Physics Department should provide as much information as possible to incoming students, e.g., the availability of the Safe Ride transportation service. The Physics Department should continue to work with other University stakeholders to address issues around campus safety.

Sexual Harassment Prevention:

(d) MIT should replicate in its general “Complaint and Grievance Procedures” the changes it has made in its newly revised Guidelines for Raising Complaints of Harassment (e.g., letting grievants know that they may consult with an attorney on their own before or after any meeting at MIT).

(e) The Physics Department should ensure that all graduate students – not just Teaching Assistants – take at least one training course, seminar, or workshop on sexual harassment during their first year in the program.

3. *Promising Practices*

Parental/Marital Status:

(a) MIT recently significantly expanded its on-site, center-based child care, creating the new Stata child care center, renovating and reorganizing MIT's existing child care centers on campus

⁴⁹ The letter, while directed to an outside entity unrelated MIT, shows a high level of organized commitment by the MIT Women in Physics program and its faculty supporters. The letter stated that: “[i]n the field of physics, females make up less than 25% of the profession. With such small numbers, we struggle to ensure that our members are viewed as physicists first, and women second. . . [W]e feel that this image suggests that women are treated less professionally than their male colleagues, and would discourage rather than encourage a young woman from entering the field. As female scientific professionals, we feel that it is important to share our reactions with your company. We hope that your company will consider this in the use of such images in the future.”

and at Lincoln Laboratory, launching a new child care co-operative pilot program at Westgate, and establishing child care scholarship programs.

(b) The MIT Center for Work, Family and Personal Life fosters a welcoming and supportive environment for those who live, work and study at MIT. In addition to providing direct services in the areas of parenting, child care, school information, and job flexibility, the Center conducts research and advocacy into work/life issues and helps develop policies and programs to improve the quality of life at MIT.

Safety:

(c) MIT operates Safe Ride, a free transportation service. This fleet of vehicles, two of which are wheelchair accessible, drives on a set route to the main Cambridge campus, as well as to all graduate and undergraduate living groups in Cambridge and Boston. The drivers have direct radio contact with the MIT Police at all times. After hours of operation, and until daylight, the MIT Police give rides in marked cruisers on request to both Cambridge and Boston.

(d) The MIT Police Department maintains a website providing extensive information on campus safety and security including police bulletins and incident logs.

Sexual Harassment Prevention:

(e) MIT has issued a revised version of its Guidelines for Raising Complaints of Harassment, which has been posted on the university's website. This guide clearly states students' rights to file a complaint with external agencies, resources available and statutes that are relevant to such issues.

(f) MIT's Sexual Harassment Policy is distributed annually in hard copy and electronic format to all University employees. The Policy and Procedures are accompanied by a memorandum from the President of the University to all faculty, staff and student employees (including graduate student employees). In addition to the MIT Policy on Harassment, the Physics Department forwards a departmental Policy on Harassment, based on MIT's policy, to all faculty, staff, and students in the MIT Physics community. NASA also notes that the Physics Department Policy on Harassment includes information on Federal agencies' Civil Rights/EO components that will receive and process harassment complaints.

(g) In 2002, the Physics Department created a training program on sexual harassment and cultural awareness for teaching assistants. The Department has also conducted several sessions for staff on MIT's policy on harassment, methods for receiving complaints, and the importance of increasing cultural diversity. In addition, staff members who are complaint handlers have attended external training programs through MIT.

III. CONCLUSION

Based on an evaluation of the data provided by MIT and from on-site interviews and observations, NASA found the MIT Physics Department to be in compliance with the NASA Title IX regulations. NASA notes with approval the extent and variety of promising practices MIT is undertaking in its efforts to increase the participation of women in its Physics Department and to ensure equal educational opportunity regardless of gender. In particular NASA notes that MIT has very high numbers of women in its undergraduate Physics program relative to other universities' Physics programs.

However, NASA has concerns regarding the university's general complaint and grievance procedures, both as written and implemented. NASA has provided specific recommendations to ensure Title IX compliance regarding MIT's grievance procedures, as well as a host of other recommendations designed to strengthen MIT's compliance regarding other Title IX requirements.