

7.

Administrative Policies and Procedures

Caltech Policy on Research Misconduct

General

Caltech's [mission](#) is to expand human knowledge and benefit society through bold, innovative, and impactful research integrated with education. In pursuing this mission, Caltech strives for the highest levels of integrity, public trust, and responsible conduct of research and promotes the [Eleven Principles](#) comprising its code of conduct. Misconduct in research harms the credibility and reputation of all of the members of the Caltech community, erodes the public trust, and hinders scientific inquiry. Caltech is committed and obligated to handle allegations or evidence of research misconduct fairly, competently, and objectively in accordance with [Caltech Policy on Research Misconduct](#), which is reproduced here, and with applicable federal regulations.

Scope

The policy applies to all members of the Caltech community, including faculty, post-doctoral scholars, staff, and students, as well as anyone who at the time of the alleged misconduct, was employed by, a student at, an agent of, an appointee of, was otherwise affiliated by contract or agreement, or who was a volunteer or guest performing the alleged misconduct at Caltech. Thus, the policy applies to members of the Caltech community who are proposing, designing, conducting or reporting research at all Caltech facilities, both on and off campus, including those at the Jet Propulsion Laboratory or elsewhere as part of their Caltech related duties or activities.

The policy applies to research proposed, conducted, or reported on the Caltech campus or at its off-campus facilities, as well as research proposed, conducted, or reported elsewhere by members of the Caltech community as part of their Caltech-related duties or activities. Caltech may apply the policy to research proposed, conducted, or reported elsewhere where it is claimed or implied to have been done at Caltech or by a member of the Caltech community. The policy does not apply to allegations or research misconduct occurring six years before Caltech is notified of the allegation, with certain exceptions, for example, if the alleged misconduct could have a substantial adverse effect on public health or safety.

Definitions

Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Fabrication is making up data or results and recording or reporting them. Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record. Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

Research misconduct does not include honest error or differences of opinion, nor does it encompass authorship or collaboration disputes, or violations of Caltech policies or federal regulations not relating to research misconduct.

A finding of research misconduct requires that there be a significant departure from accepted practices of the relevant research community and that the misconduct be committed intentionally, knowingly, or recklessly. In addition, any allegations must be proven by the standard of a preponderance of the evidence.

Rights and Responsibilities

All members of the Caltech community, including those based at off-campus facilities, have a responsibility to cooperate in the review of allegations of research misconduct during an inquiry or investigation. This responsibility includes providing all relevant evidence and maintaining confidentiality when appropriate.

No person may participate in the assessment, inquiry, or investigation (other than the complainant, respondent, and witnesses) if they have an actual or potential conflict of interest in the proceedings in accordance with the Caltech [Conflicts of Interest Policy](#).

While Caltech has the primary responsibility for prevention and detection of research misconduct, and for the inquiry, investigation, and adjudication of research misconduct alleged to have occurred at Caltech or by the members of the Caltech community, government agencies have ultimate oversight authority for research supported by their funding.

Research Integrity Officer

Caltech's Research Integrity Officers are Caltech's Vice Provost for Research and JPL's Chief Scientist. The Research Integrity Officers have primary responsibility for implementing Caltech's policy and procedures relating to research misconduct. These responsibilities include:

- meeting with people in confidence who are unsure if they should bring an allegation;
- receiving allegations of research misconduct;
- assessing allegations of research misconduct to determine whether an inquiry is warranted;
- sequestering and maintaining relevant data and other evidence;
- communicating with respondents, complainants, and witnesses regarding the process, allegation, evidence, and reports as described herein;
- appointing a chair and other members of the inquiry and investigation committees;
- ensuring that no person with an unresolved potential or actual conflict of interest is involved in the process;
- protecting from retaliation or restoring the positions or reputations of complainants and witnesses acting in good faith;
- informing the Provost and, if the alleged misconduct occurred at JPL, the JPL Director, and others who need to know of progress;
- notifying and providing reports to federal agencies and other sponsors;
- ensuring that Caltech's administrative actions are enforced and notifying other relevant parties of those actions; and
- maintaining the records of the research misconduct process.

The Research Integrity Officers may delegate some or all of their responsibilities as they deem appropriate and must not participate if they have an actual or potential conflict of interest. The Research Integrity Officers typically delegate their responsibilities during the assessment and inquiry stages to the appropriate Division Chair or JPL Associate Chief Scientist, who may work with the Director of Research Compliance in consultation with the Office of the General Counsel to ensure the responsibilities are fulfilled. In the investigation stage, the Research Integrity Officers typically delegate their responsibilities to the Director of Research Compliance on campus and the JPL Associate Chief Scientist. The Director of Research Compliance and the JPL Associate Chief Scientist will work together as appropriate.

Complainant

The complainant means a person who in good faith makes an allegation of research misconduct. Complainants are not limited to members of the Caltech community. The complainant's responsibilities include maintaining confidentiality, and unless the complainant chooses to remain anonymous, cooperating with the inquiry and investigation. In certain circumstances, such as when an allegation is brought anonymously, there is no complainant.

Respondent

The respondent means a person against whom an allegation of research misconduct is directed, or who is the subject of a research misconduct proceeding. Additional respondents may be identified during an inquiry or investigation. The respondent's responsibilities include maintaining confidentiality and cooperating with the inquiry and investigation.

Witness

A witness is any available person who has been reasonably identified as having information regarding any relevant aspect of an investigation. To the extent available, witnesses shall be interviewed during the investigation, provided with a transcript of their own interviews, and given a reasonable period of time to make corrections to the transcript to be included in the record.

Responsibility to Report Misconduct

All members of the Caltech community, including those at all off campus facilities, have a responsibility to report observed, suspected, or apparent research misconduct. It may be reported to the Vice Provost for Research, the Office of Research Compliance, a Division Chair, the JPL Chief Scientist, the JPL Associate Chief Scientist, the JPL "Directors For" ("D4s"), the JPL Ethics Office, the Office of the General Counsel, Audit Services and Institute Compliance, the [Caltech Hotline](#), or the [JPL Ethics Help Line](#). Allegations of research misconduct may be reported anonymously.

When a person is unsure whether a particular incident may be research misconduct or not, they may contact or meet with the Director of Research Compliance or the JPL Associate Chief Scientist to discuss the incident informally in order to help the individual decide whether an allegation is appropriate. This discussion may be anonymous or based on hypothetical facts. If the incident, could not meet the definition of research misconduct, but should otherwise be handled, the Research Integrity Officer may refer the individual or allegation to the appropriate office with responsibility for handling such an incident.

Confidentiality, Retaliation, and Damage to Reputation

Throughout a research misconduct proceeding, disclosure of the identity of the complainant and respondent will be limited, to the extent possible, to those with a need to know to carry out a fair, thorough, competent, and objective proceeding, and as allowed by law. The identity of witnesses may be similarly limited when the circumstances indicate that the witnesses may be harassed or otherwise need protection. However, Caltech must disclose the identity of complainants and respondents, and witnesses when required by applicable federal regulations, such as when a federal agency reviews a proceeding.

Unless otherwise required by applicable law, any records or evidence from which human research subjects might be identified must be kept confidential, and disclosure is limited to those who have a need to know during the research misconduct proceeding.

If a complainant makes an allegation that is not in good faith, the Research Integrity Officer will inform the Provost (on campus) or the JPL Director who will refer the matter for possible disciplinary action. However, Caltech prohibits retaliation against anyone who makes a good faith allegation of suspected research misconduct, in accordance with its [Whistleblower Policy](#). Any potential or actual retaliation against a complainant, respondent, witness, or research misconduct inquiry or investigation committee member should be reported to the Research Integrity Officer or reported as described in the Whistleblower Policy. The Research Integrity Officer will review the alleged retaliation and, when warranted, take steps to protect or restore the position and reputation of the person against whom the retaliation was directed.

When requested and as appropriate, Caltech will make all reasonable and practical efforts to protect or restore the reputation of respondents alleged to have committed research misconduct, but against whom no finding of research misconduct was made.

The Assessment of the Allegation

When an allegation of research misconduct is received by an official other than a Research Integrity Officer, it should be immediately brought to the Research Integrity Officer's attention. The Research Integrity Officer will

typically delegate their responsibility to the appropriate Division Chair or to the JPL Associate Chief Scientist to assess, in a reasonable period of time, any allegation of research misconduct to determine whether the conduct falls within the scope of the policy, whether the allegation, if true, would include conduct that meets the definition of research misconduct, and whether the allegation is sufficiently specific such that potential evidence of research misconduct could be identified. When all of these criteria are met, an inquiry is warranted. If the Research Integrity Officer becomes aware of a possible impropriety and determines that an inquiry is warranted, he or she may initiate an inquiry without a specific allegation or complaint. If it is determined that an inquiry is warranted, the research misconduct proceeding must go forward, even if the complainant or respondent resigns or otherwise leaves or has left Caltech.

In assessing the allegation, the Division Chair or JPL Associate Chief Scientist need not interview the complainant, respondent, or any witnesses, or gather any additional information or data than what was provided with the allegation. However, he or she may do so when it is necessary to determine whether the allegation is sufficiently credible and specific.

If the allegation is true but does not meet the definition of research misconduct, the Division Chair or JPL Associate Chief Scientist will provide counsel to the complainant, try to resolve the issue through a satisfactory means other than the policy, and notify the appropriate Research Integrity Officer.

The Inquiry

Initiating an Inquiry: When the Research Integrity Officer's, Division Chair's, or JPL Associate Chief Scientist's assessment of an allegation of research misconduct leads to the determination that an inquiry is necessary, the Division Chair, Associate Chief Scientist or the Research Integrity Officer (as applicable) will initiate an inquiry, in a reasonable amount of time. In some circumstances, it may be more appropriate for the Research Integrity Officer to appoint another individual or a committee to conduct the inquiry, for example, when there is an actual or potential conflict of interest, more than one Division is involved, or where specific scientific expertise is sought.

The purpose of the inquiry is to conduct an initial review of the evidence to determine whether an investigation is warranted. An investigation is warranted when preliminary information-gathering and fact-finding indicate that there is a reasonable possibility that research misconduct may have occurred. The inquiry does not require a full review of all of the evidence related to the allegation.

The Research Integrity Officer may also wish to notify the Provost, JPL Director, and/or President at this stage, and may involve the Office of Research Compliance or JPL Ethics Office for administrative support and the Office of General Counsel for legal support for the research misconduct proceeding.

Conducting an Inquiry: The inquiry begins when the Division Chair or JPL Associate Chief Scientist notifies the respondent in writing of the allegation and of the research misconduct proceeding to follow, or when this is not possible, makes a good faith effort to do so. The respondent is entitled to receive a copy of the policy. Any additional respondents identified during the inquiry must also be notified as soon as reasonably possible. When it would be helpful to the inquiry, the complainant may be notified that an inquiry was warranted based on his or her allegation.

On or before the date the respondent is notified of the inquiry, all practical and reasonable steps must be taken to obtain custody of all the research records and evidence necessary to conduct the research misconduct proceeding. The records and evidence must be inventoried and sequestered in a secure manner, except when the research records or evidence encompass scientific instruments shared by several users, in which case custody may be limited to copies of the data or evidence, as long as the copies are substantially equivalent.

The cognizant Division Chair, the JPL Associate Chief Scientist, and/or committee conducting the inquiry will examine relevant research records and materials and will normally interview the complainant, the respondent, and key witnesses. Then the preliminary evidence, including the testimony obtained during the inquiry, will be evaluated. Based on this evaluation and after consultation with the Research Integrity Officer, the Division Chair or JPL Associate Chief Scientist will recommend whether an investigation is warranted based on the criteria in the policy, any applicable federal regulations, and any sponsor agreements.

Note that the scope of the inquiry at this stage is not required to and does not normally include a determination of whether misconduct definitely occurred, determining definitely who committed any research misconduct that may have occurred, or conducting exhaustive interviews and analyses. However, if an admission of research misconduct is made by the respondent, misconduct may be found at the inquiry stage.

The inquiry, including preparation of the final inquiry report and the decision of the Division Chair, JPL Associate Chief Scientist, or committee conducting the inquiry on whether an investigation is warranted, should be completed in a reasonable time period (normally within 60 calendar days, unless the Research Integrity Officer determines that circumstances warrant a longer period. If the Research Integrity Officer approves a longer than 60 day interval to completion of the inquiry, the inquiry record must include documentation of the reasons for this).

The Inquiry Report: The Division Chair, JPL Associate Chief Scientist, or committee conducting the inquiry must prepare a draft inquiry report and provide the respondent with a clearly specified time period (not less than three calendar days) in which to review and comment. When it would be helpful to the inquiry, the complainant may also be given an opportunity to comment on parts of or the entire report as well. The draft inquiry report must include:

- a. the name and position of the respondent
- b. a description of the allegations of research misconduct
- c. the funding source (including, for example, grant numbers, grant applications, contracts and publications listing the support), and
- d. the basis for the decision that the allegations warrant or do not warrant an investigation.

When appropriate, the final inquiry report may be revised in response to comments on the draft report received from the respondent and complainant, if any, and will also include, in an attachment, any comments on the draft inquiry report by the respondent and/or complainant.

Conclusion of the Inquiry: The inquiry is concluded when the Research Integrity Officer receives the final inquiry report (including revisions as described at the end of the previous section) and states in writing (to be kept with the record) their determination as to whether an investigation is warranted.

The Division Chair, JPL Associate Chief Scientist, or committee conducting the inquiry shall provide the respondent with the final report, a copy of the policy, a reference to any applicable regulations, and will inform the respondent of the Research Integrity Officer's decision as to whether the proceedings will continue onto an investigation. The complainant will be notified whether or not the inquiry found that an investigation is warranted.

If it is determined that an investigation is not warranted, the research misconduct proceeding ends.

If a complainant is not satisfied with the conclusion that an investigation is not warranted, the result may be appealed in writing to the Provost or the JPL Director within 10 calendar days of the date notice was given.

The Investigation

Initiating an Investigation: The investigation must begin within 30 calendar days after the decision by the Research Integrity Officer that an investigation is warranted. The purpose of the investigation is to develop a factual record by exploring the allegations in detail and examining the evidence in depth, leading to recommended findings on whether research misconduct has been committed, by whom, and to what extent. The investigation will also determine whether there are additional instances of possible research misconduct that would justify broadening the scope beyond the initial allegations.

If it is determined that an investigation is warranted, relevant federal agencies and other sponsors should be informed in a timely manner. The time scale for informing agencies and sponsors is sometimes specified by them: For example, in the case of research funded by Public Health Service, the Office of Research Integrity must be provided with the final inquiry report (including the determination to proceed to an investigation and the policy) within 30 days. In the case of research funded by the National Aeronautics and Space Administration, the Office of the Inspector General must be notified as soon as possible once it has been determined that the inquiry supports a formal investigation.

When an investigation is initiated, interim administrative action may be required to protect the interests of complainants, respondents, students, faculty, staff, colleagues, human subjects, sponsors, or Caltech while the investigation proceeds. Possible actions include temporary suspension of the research.

Conducting an Investigation: On or before the date on which the investigation begins, the Vice Provost for Research on campus or the JPL Chief Scientist (i.e., the relevant Research Integrity Officer) must notify the respondent in writing of the allegations to be investigated.¹ The Research Integrity Officer must also give the respondent written notice of any new allegations of research misconduct within a reasonable amount of time of deciding to pursue any allegations unrelated to those addressed during the inquiry or in the initial notice of the investigation. If the Research Integrity Officer has not yet notified the relevant federal agencies or other sponsors of the decision to begin an investigation, he or she must provide the sponsor with a copy of the final inquiry report and the policy, on or before the date on which the investigation begins as well.

The Research Integrity Officer will, prior to notifying respondent of the allegations, take all reasonable and practical steps to obtain custody of and sequester in a secure manner all research records and evidence needed to conduct the research misconduct proceeding that were not previously sequestered during the inquiry (as well as whenever additional items become known or relevant to the investigation). The need for additional sequestration of records for the investigation may occur for any number of reasons, including a decision to investigate additional allegations not considered during the inquiry stage or the identification of records during the inquiry process that had not been previously secured. The procedures to be followed for sequestration during the investigation are the same procedures that apply during the inquiry.

As soon as practically possible after the investigation begins, the Research Integrity Officer, in consultation with the Division Chair or JPL Associate Chief Scientist and other institutional officials as appropriate, will propose an investigation committee and a committee chair. The investigation committee must consist of individuals who do not have unresolved personal, professional, or financial conflicts of interest with the individuals involved in the investigation. The committee should include individuals with the appropriate scientific expertise to evaluate the evidence and issues related to the allegation, interview the respondent and complainant, and conduct the investigation. Members of an inquiry committee may also be appointed to the investigation committee, and the investigation committee may include people outside of the Caltech community.

The respondent, and when appropriate, the complainant, shall be provided in writing the names of the people on the investigation committee and given an opportunity to comment on the suitability of the proposed members before the committee is finalized. Comments should be in writing and received within 5 calendar days of receipt for consideration by the Research Integrity Officer.

Once the investigation committee is finalized, the Research Integrity Officer will provide the committee with a formal written charge. The charge will:

- a. describe the allegations and related issues identified during the inquiry;
- b. identify the respondent;
- c. provide the inquiry report;
- d. inform the committee that it must conduct the investigation as prescribed by the policy;
- e. define research misconduct;
- f. identify any applicable federal regulations;
- g. inform the committee that it must evaluate the evidence and testimony to determine whether, based on a preponderance of the evidence, research misconduct occurred and, if so, the type and extent of it and who was responsible;
- h. inform the committee that in order to determine that the respondent committed research misconduct it must find that a preponderance of the evidence establishes that:

¹ The JPL Chief Scientist may delegate any or all of these responsibilities to the Associate Chief Scientist.

- i. research misconduct, as defined in the policy, occurred (respondent has the burden of proving by a preponderance of the evidence any affirmative defenses raised, including honest error or a difference of opinion);
- ii. the research misconduct is a significant departure from accepted practices of the relevant research community;
- iii. the respondent committed the research misconduct intentionally, knowingly, or recklessly; and
- i. inform the committee that it must prepare or direct the preparation of a written investigation report.

The investigation committee must ensure that the investigation is thorough and sufficiently documented and that it includes examination of all research records and evidence relevant to reaching a decision on the merits of each allegation. The investigation committee must take reasonable steps to ensure an impartial and unbiased investigation to the maximum extent practical. During the investigation, each respondent, complainant, and any other available person who has been reasonably identified as having information regarding any relevant aspects of the investigation, including witnesses identified by the respondent, shall be interviewed. Each interview must be recorded or transcribed, and each witness must be provided with a recording or transcript of his or her interview for correction, for inclusion in the record of the investigation. The investigation committee must pursue all relevant, significant issues and leads discovered, including any evidence of any additional instances of possible research misconduct, and continue the investigation to completion.

The investigation should normally be completed within 120 calendar days, including conducting the investigation, preparing the report of findings, providing the draft report for comment and sending the final report to applicable federal agencies and other sponsors. However, if the investigation committee determines that additional time is required, it should immediately notify the Research Integrity Officer. If the Research Integrity Officer determines that the investigation should be allowed to continue beyond 120 days, a written request for more time, setting forth the reasons for the request, should be submitted to the appropriate funding agency or agencies. If an extension is granted, Caltech may be required to file periodic progress reports. In all cases, the reasons for the delay should be documented.

The Investigation Report: Once it has reached its conclusion, the investigation committee must prepare a draft investigation report. The respondent must be provided with (1) an opportunity to review and comment on the draft report; (2) concurrently be given a copy of or supervised access to the evidence upon which the report is based; and (3) be given 30 calendar days to make written comments. When it would be helpful to the investigation, the complainant may also be given an opportunity to comment on relevant portions of or the entire report within 30 calendar days as well. In some instances, the respondent and complainant may be asked to sign a confidentiality agreement before receiving the draft report. The respondent and complainant comments will be included in the record, considered, and when appropriate, addressed in the final report.

The draft investigation report must include:

- a. a description of the allegations of research misconduct;
- b. the name and position of the respondent(s);
- c. the current and former funding sources, including, for example, grant numbers, grant applications, contracts and publications listing the support, as well as any pending proposals;
- d. the institutional charge (the specific allegations of research misconduct considered in the investigation);
- e. the policy;
- f. an identification and summary of the research records and evidence reviewed;
- g. an identification and summary of any evidence taken into custody but not reviewed, and
- h. a statement of findings for each allegation of research misconduct identified during the investigation. Each statement of findings must:
 - i. indicate whether research misconduct occurred, and if so, also identify
 - the person(s) responsible for the misconduct;
 - whether the research misconduct was falsification, fabrication, or plagiarism; and
 - whether it was committed intentionally, knowingly, or recklessly;
 - ii. summarize the facts and the analysis that support the conclusion and consider the merits of any reasonable explanation by the respondent;

- iii. identify the specific funding sources; and
- iv. state whether any publications need correction or retraction.

Before drafting the final report, the committee must consider any comments received from the complainant or respondent, and revise the report if appropriate. The final report must also include: comments on the draft investigation report by the respondent and complainant, if any, in an attachment.

Adjudication

The investigation committee will transmit the final investigation report to the Provost on campus or to the JPL Director, and will also consult with them regarding the recommended institutional action(s). The Provost or the JPL Director will determine and then state, in writing, whether Caltech accepts the investigation report, its findings, and the recommended institutional actions. The JPL Director or JPL Chief Scientist will consult with the Provost regarding the recommended institutional action. When a finding of research misconduct is accepted, the proposed institutional actions to be taken in response shall also be stated in writing.

If the Provost or JPL Director's determination varies from the findings of the investigation committee, the Provost or JPL Director will, as part of their written determination, explain the basis for rendering a different decision from the findings of the investigation committee. Alternatively, the Provost or JPL Director may return the report to the investigation committee with a request for further fact-finding or analysis.

When it is determined that there is no finding of research misconduct by the Provost or JPL Director, the Provost and Division Chair or JPL Chief Scientist and appropriate Director "for" should decide what steps need to be taken to correct the record and protect or restore the reputation of all parties involved. In addition, when the allegation was made in good faith, the Provost or JPL Chief Scientist should determine what steps might be necessary to prevent retaliatory action against the complainant, as stated above in the section entitled "Confidentiality, Retaliation, and Damage to Reputation."

When it is determined that there is a finding of research misconduct by the Provost or JPL Director, the Provost and Division Chair on campus or Chief Scientist and appropriate Director "for" at JPL should determine the course of action for dealing with the misconduct, notifying appropriate federal agencies and other sponsors, and correcting the scientific record. The Provost and Division Chair will forward the investigation report to the President, along with the full record of the inquiry and investigation, and recommend sanctions and other actions to be taken. Possible sanctions against the respondent include, but are not limited to, removal from the project, a letter of reprimand, additional oversight, probation, suspension, demotion, salary reduction, termination, and revocation of a degree conferred based on the research misconduct. The JPL Director shall brief the President on any investigation or actions taken at JPL and provide a copy of the final report.

Other institutional actions that may be appropriate include, but are not limited to, withdrawal or correction of all pending or published abstracts and papers emanating from the research where research misconduct was found, retraction or correction of submitted grant applications with data emanating from the research where research misconduct was found, and restitution of funds to the grantor federal agencies or other sponsors as appropriate.

After the President or JPL Director has reviewed the investigation report, the full record of the inquiry and investigation, the recommendations for administrative action, and any recommendations for sanctions, they shall decide what actions are appropriate. The President or JPL Director should consider the seriousness of the misconduct, including whether the misconduct was intentional or reckless, was an isolated event or part of a pattern, had significant impact on the research record, and had significant impact on other researchers or institutions.

When a final determination by the President or JPL Director has been reached, the Research Integrity Officer will notify the respondent in writing and provide them with the final investigation report. When appropriate, the Research Integrity Officer will notify the complainant in writing as well. All federal agencies and other sponsors initially informed of the research misconduct proceeding must be promptly notified of the finding. The Research Integrity Officer will ensure that the investigation report, his or her findings, and a description of any pending or completed administrative actions are reported to government agencies or sponsors with applicable terms or regulations within 30 days of the determination.

Interim Administrative Action and Reporting

At any point during a research misconduct proceeding, applicable federal regulations may require Caltech to notify government agencies immediately if there is reason to believe that public health or safety is at risk, there is an immediate need to protect human or animal subjects, government resources or interests are threatened, research activities should be suspended, there is a violation of civil or criminal law, federal action is required to protect the interests of people involved in the proceeding, or the research community or public should be informed. If there is a reasonable indication of possible criminal violations, relevant authorities must be informed. In addition, Caltech may take appropriate institutional action to protect the public health, federal funds and equipment, and the integrity of the research process.

Caltech is required to report to government agencies with applicable regulations when it appears a research misconduct proceeding has been made public prematurely so that the agency may take appropriate steps to safeguard evidence and protect the rights of those involved. Agencies may take interim actions, such as suspending an existing award; suspending eligibility for federal awards; proscribing or restricting particular research activities, for example, to protect human or animal subjects; requiring special certifications, assurances, or other, administrative arrangements to ensure compliance with applicable regulations or terms of an award; requiring more prior approvals; deferring funding action on continuing grant increments; deferring a pending award; and restricting or suspending participation as a reviewer, advisor, or consultant.

Completion of Cases

Generally, all inquiries and investigations will be carried through to completion and all significant issues should be pursued diligently. However, in some instances, a case may be closed during the inquiry or investigation for reasons such as the respondent has admitted guilt, or a resolution with the respondent has been made.

Obligations to and Actions by Sponsors

Reporting to Funding Agencies: For research funded by sponsors with requirements or regulations to be informed of research misconduct, at or before the conclusion of the research misconduct investigation, the Research Integrity Officer will submit the investigation report, the final institutional action, the findings, and any pending or completed institutional actions against the respondent.

Actions by Funding Agencies: Federal agencies and other sponsors may take action against an individual or against Caltech after a finding of research misconduct has been reported. Such actions include sending a letter of reprimand; requiring that the individual or Caltech obtain special prior approval of particular activities; requiring that an institutional official other than those guilty of misconduct certify the accuracy of reports generated under an award or provide assurance of compliance with particular policies, regulations, guidelines, or special terms and conditions; suspending, restricting, or terminating an active award; requiring special reviews of all requests for funding to ensure that steps have been taken to prevent repetition of the misconduct; requiring a correction to the research record; prohibiting participation of an individual as a reviewer, advisor, or consultant, debarring or suspending an individual or institution from participation in federal programs for a specified period after further proceedings under applicable regulations.

Reporting to Other Parties: After a finding of research misconduct has been made it may be appropriate for Caltech to notify professional societies, professional licensing boards, or editors of journals in which falsified reports were or will be published, the respondent's research collaborators, and other relevant parties. The Research Integrity Officer will be responsible for insuring that those actions take place.

Recordkeeping

If after an inquiry, a determination is made that an investigation is not warranted, the records must be kept in a secure manner for at least seven years after the inquiry and be in sufficient detail such that a later assessment of why an investigation was not conducted can be made. When a research misconduct investigation proceeds to an investigation, the records of the research misconduct proceeding must be kept in a secure manner for at least seven years after completion of the investigation, or any related government proceeding, or any related litigation proceeding, whichever comes last.

Records include all relevant research records, records of the research misconduct proceeding, and the results of all interviews, including the transcripts or recordings. The records of the research misconduct proceeding include records that were secured except to the extent they were subsequently determined to be irrelevant or duplicative, the documentation of the determination of the records being irrelevant or duplicative, the inquiry report and final documents (i.e., not drafts) produced during the course of its preparation, including documentation of any decision not to investigate; and the investigation report and final documents (i.e., not drafts) produced during the course of its preparation. In addition, any information, documentation, evidence or clarification that would be helpful for an appropriate government agency to review Caltech's handling of an allegation of research misconduct must be retained as well.

Caltech may be required to transfer custody of or provide copies of records to a government agency when regulations permit a sponsor to make such a request.

Candidacy for Public Office

Caltech recognizes that from time to time faculty members may choose to run for elective offices at the local, state, or national level. As long as this kind of activity can be carried out without seriously impairing the discharge of his or her duties, leave of absence will not be necessary; but when serious impairment is involved, a leave of absence without pay should be requested for the period of such involvement. The faculty member's supervisor should be kept informed as to the degree of involvement in this activity.

If a faculty member chooses to run for elective office, it is most important not to involve Caltech as an institution in the campaign. Caltech's status as a nonprofit, tax-exempt organization, as a corporation, and as a federal contractor is at stake. The faculty member should make certain that Caltech's name or seal is not used for political purposes and that Caltech's equipment, services, or supplies are not used in the campaign (except, for example, at Graphic Resources, where there are established procedures for paying for these services). This limitation includes, among other things, reproduction machines, stationery, telephones, computers, mail service, and the like. Caltech's name may be used in the body (but not on the head) of written material intended for political purposes, where necessary to identify an individual or a group, e.g., the name of a Caltech club, but it should be clearly indicated that the people involved speak only as individuals and not for Caltech.

Classified Work on Campus

The Institute's policy is that no government contracts or grants are accepted if they require classified research to be carried out on campus. The Institute firmly intends to continue this policy.

However, in the past the Institute has undertaken classified studies at urgent government request in times of national emergency or critical need and would consider doing so if such circumstances arise in the future.

On several occasions, and on urgent government request, some campus facilities have been made available for limited periods for classified work by an off-campus group. This has been done when the facilities have not been available elsewhere, and the work could be done in a few days or at most a few weeks, and it was judged by the President of the Institute to be an emergency warranting an exception. Such work should be undertaken only after approval by the President upon recommendation of the responsible Division Chair for the specific instance.

Controlled Unclassified Information

The Institute's policy is that no government contracts, grants, or subawards are accepted if they require either receiving or producing Controlled Unclassified Information (CUI) in order to carry out the project.

Exceptions to this policy can be granted by the Provost's Office in limited circumstances if so doing is in the best interests of the Institute.

Conflict of Interest, Conflict of Commitment, and Technology Transfer

Education and research in science and technology are central to the mission of Caltech. The Institute also wishes to serve society by encouraging businesses to transform results of research into products, processes, and services that will become available in the marketplace. Moreover, in many areas of research, contact with industry and entrepreneurship are essential for success, and need to be encouraged and rewarded. These legitimate interests of the Institute can sometimes come into conflict. For example, experience shows that research and teaching are

best carried out in an environment that encourages the free exchange of ideas between all participants. On the other hand, private research sponsors may have good reasons for wanting to keep certain results confidential, at least temporarily. To cite another example, the most effective means of transferring technology sometimes requires active participation by a Caltech researcher in a private enterprise, as an advisor or consultant. Researchers deserve to be compensated for their work and ideas in this process. However, activities of this kind may pose real or apparent conflicts with the integrity and objectivity of research at the Institute, and with the employee's primary professional commitment, which is to the Institute.

To help the faculty and all other investigators understand their duties and responsibilities in resolving these potential conflicts, the following principles and rules have been adopted by the Institute:

General Principles

Membership in the Caltech faculty involves a commitment that is full time in the most inclusive sense. Each faculty member is expected to accord complete professional loyalty to the Institute, and to arrange outside obligations, financial interests, and activities in such a way that they do not interfere with this primary, overriding commitment. This commitment applies as well to postdoctoral scholars. In addition, the Institute charges its faculty with a particularly heavy burden of responsibilities to safeguard the basic principles of research integrity, academic freedom, and public interest. When performing research sponsored by private interests, or negotiating with companies or entrepreneurs, or forming a company for commercial purposes, or engaging in any activity in which a conflict of interest may arise, it is the responsibility of the professorial faculty member² to protect:

1. The integrity of all research done at the Institute.
2. The good name of the Institute.
3. The academic freedom and economic rights of fellow faculty, students, postdoctoral scholars, and staff. Students, postdoctoral scholars and research faculty must be able to discuss their work freely, present results at conferences and seminars, and so on. A faculty member must never exploit the work of students, staff, or researchers for personal or professional gain.
4. The public interest. When government funds are involved in the support of research, the Institute's accountability to the government and the public requires that the investigators take particular care to obey all rules and regulations of the government and the sponsoring agencies. Details are to be found in the document *Managing Conflict of Interest Requirements Under Federal Sponsored Awards*, which is available in the Provost's Office, the Divisional Offices, and the Office of Sponsored Research.

Principles and Rules Concerning Investigator Responsibilities

1. A faculty member or postdoctoral scholar may not hold a position of line responsibility in an outside enterprise for pay or profit.²
2. A Caltech researcher may not spend more than an average of one day per calendar week consulting. See Consulting Activities (this chapter) for details.
3. Investigators are required to inform the appropriate Division Chair, immediately and in writing, through the Caltech disclosure system, of any consulting for, or financial interest³ in, a firm with which their research at the Institute becomes involved.

Rules Concerning Patent Rights and Research Support

The Institute permits professors to seek research support from companies wishing to have the right to commercialize possible results of their research. To this end, it is willing to negotiate appropriate licenses to future patents in exchange for research support. In all dealings with private companies, however, the following principles and rules apply.

1. Neither the direction of Caltech research nor the interpretation of research results should be altered or appear to be altered by the commercial interests of a company. To help ensure this result, a professor must disclose all financial and business interests³ in a company that supports the professor's research, the

² The principles and rules also apply to emeritus faculty members who are active in research.

² A person who makes decisions and to whom others report has line responsibility. A member of the Board of Directors, or a person who only gives advice, does not.

³ Financial interests do not include interests in mutual funds or in blind trusts. Business interests include consulting for, holding any position of line responsibility in, board membership in, or holding any salaried position at, the company supporting the research.

company must enter into an Institute-approved sponsored research agreement, and the professor must develop and receive Institute approval of an appropriate Research Management Plan. Unrestricted gifts are welcomed from companies in which a professor has a financial or managerial interest; however, such gifts must be made to the professor's Division, or if the professor is a Division Chair, to the Institute *and* such gift funds shall not be used to support the research of the professor.

2. Any contract granting to a company rights to license future patents arising from research sponsored by the company must clearly delineate the scope of that work in order to distinguish it from research supported by other funds, especially public funds for which the Institute has a special responsibility.
3. The Institute may, in some circumstances, consider accepting financial interest in a company in exchange for licenses to patents, present or future. The Institute must then be sensitive to potential institutional conflicts of interest. It cannot, for example, permit a faculty member, postdoctoral scholar, or graduate student to work on behalf of the company as part of that person's Institute duties. It cannot accept research funds from the company except in the form of a sponsored research agreement where an Institute approved research management plan is in place to ensure that the research cannot be influenced by the financial interests of the Institute.
4. Circumstances may arise in which the most effective way to develop new technology is to award a subcontract, or to license a patent or copyright to a company in which either the Institute or a member of its research community has substantial financial interest. In such cases, it may appear to outside agencies or to competing companies that Caltech has acted unfairly. When a company in which the Institute or a member of its research community has substantial financial interest is chosen as a subcontractor to sponsored research, or as a licensee to a Caltech patent or copyright, care must be taken that the nature of the financial interest is fully disclosed to all relevant parties (including written disclosure to the Division Chair and to Caltech Procurement), and that sound, objective business reasons for choosing the company as subcontractor or licensee are fully documented.
5. The university may support the commercial sector, but it should not compete with it or be a member of it. Hence, Caltech laboratories should not perform specific commercially available tasks for the primary purpose of gaining income, nor should Caltech facilities be used to develop and commercialize a product. Caltech may enter into Facility Use or Technical Service Agreements with companies, in furtherance of Caltech's mission and to provide unique research facilities or capabilities not commonly available to the public. (See paragraphs 6 and 7 under "Consulting Activities," Item 4 under "Policies Governing Sponsored Research," and Item 5 under "Procedures for Submitting Proposals and for Accepting Awards," this chapter.)
6. Caltech is willing to keep sponsors fully informed about the research they support, but the Institute does not grant to outside organizations the right to delay submission or to refuse publication of research papers. Where appropriate, however, publications can be deferred for a limited period of time in order to protect patent rights, or to protect proprietary information that has been provided by a sponsor, and that inadvertently may have been included in a publication. Any such deferral will require concurrence from the Principal Investigator and the Vice Provost.
7. Royalty payments, consulting, or other forms of financial dealings with a commercial firm should be disclosed in accordance with Caltech Policy. Disclosures may need to be supplemented with additional information when applying for research support from a federal agency (see *Managing Conflict of Interest Requirements Under Federal Sponsored Awards* for details).

These principles and rules are designed to protect the essential interests of the Institute and its faculty, postdoctoral scholars and students while encouraging creative relationships between research and commerce by establishing guidelines within which investigators can safely operate. When a specific instance arises where interpretation of these principles and rules is required, investigators are encouraged to discuss the matter with the Division Chair, the Vice Provost for Research, or the Provost so that a sensible and legal resolution may be achieved.

Consulting Activities

The Institute encourages internal consultation and exchange of information among all members of the faculty and among and within all Divisions of the Institute. Such collegial consultation and interchange is expected of all faculty members. However, in exceptional cases, where an unusual or prolonged consulting project is involved requiring the attention and time of an individual to an extent that impinges on normal academic duties, the

President or Provost may authorize a stipend for such services to be paid to the individual and charged against the project that is served, whether or not the project is operating under a sponsor. Such arrangements are subject to the approval of the sponsoring agency.

It is recognized that a faculty member may undertake outside consulting work, provided it does not interfere with Institute duties. Consulting work is limited as follows: an average of one day per week for those on a twelve-month basis for the calendar year or one day a week for the academic year for those on a nine-month basis. Consulting should not exceed a continuous period of more than one week during the fall, winter, or spring quarters. For those on twelve-month appointments, consulting should not involve more than a single period of two weeks during the summer quarter. Accumulation of consulting time beyond these limits is not consistent with the year-round nature of faculty appointments.

Consulting privileges impose obligations on the faculty member that must be clearly understood, and in cases of doubt, the appropriate Division Chair should refer the case to the Provost.

There is a possibility of conflict of interest between outside activities and work at the Institute. In such a conflict, obligations to the Institute take priority. The federal government may become involved in questions of conflict of interest either through support of a faculty member's research or because a faculty member participates in an advisory capacity or serves on a government committee. The statement on the subject of conflict of interest issued by the American Council on Education and the American Association of University Professors, to which the Institute subscribes in principle, is available in the Provost's Office. The current Institute policy on Conflicts of Interest may be found under Institute Policies on the Human Resources web site. It is the responsibility of any faculty member who accepts outside obligations that might generate a conflict of interest, either with obligations to the Institute or obligations under federally financed research, to consult the Division Chair, the Vice Provost for Research, or the Office of Research Compliance for advice on these problems.

Consulting work represents the personal effort of the faculty member and will not be the subject of a contract involving the Institute. Scrupulous care must be taken to ensure that the name of the Institute and its letterhead are not used directly in any correspondence between the faculty member and the client, or in any reports that the faculty member may submit. It is important that the name of the Institute not appear in any publicity or commercial presentation either in promotion of future consulting services and activities or in the results of such consulting work.

To protect the Institute, the faculty member should notify the client in writing that the work is being done by an individual, that no position of line responsibility for the work can be accepted, that the Institute assumes no responsibility for the work, and that the name of the Institute may not be used in reports or publicity resulting from the work. The faculty member should also state that the faculty member has assigned rights in inventions to the Institute for inventions related to Institute work. The client should acknowledge this statement as evidence of the understanding upon which the work is to be done.

In a consulting activity, the faculty member may need to use Institute equipment. Such equipment may not be used except to a limited extent and only if it can be used without interfering with normal Institute activities. Its use must be approved by the appropriate Division Chair and the Vice President and Chief Operating Officer who may decide that a charge for the use of the equipment may be made. Charges for the use of equipment or facilities and arrangements regarding stipends and insurance coverage for assistants other than Institute faculty or students are to be established in consultation with the Vice President and Chief Operating Officer. If government or sponsor-owned equipment is to be used for consulting purposes, prior permission of the owner should be obtained through the Office of Sponsored Research. All unusual cases of the use of Institute facilities outside a faculty member's line of duty should be referred for approval to the Provost.

In connection with the use of Institute facilities or equipment, it should be noted that the Institute Patent Policy (later in this chapter) contains the statement: "Inventions made by employees in line of Institute duty or with the use of Institute facilities may be patented in order to protect and benefit the Institute and the public." Such patent properties are to be assigned in accordance with the Institute Patent Policy. Consulting work done by a staff member often involves developments for which the client may wish to obtain patent protection. "Consulting" will be interpreted by definition as being outside the staff member's "line of duty." Interpretation of "use of Institute facilities" is more difficult because in the literal sense an Institute facility could mean a trivial detail. There, as in the actual conduct of the consulting work itself, a considerable amount of discretion and judgment on the part of the staff member and the Division Chair must be used. Obviously, the use of Institute facilities must be kept to a minimum, but to permit no use whatever of Institute equipment in consulting work is both unrealistic and inconsistent with the Institute's expressed desire to be of service to the community, particularly when unique facilities are available. In the event that the faculty member and the Division Chair are in doubt concerning possible

Institute patent rights in a particular consulting arrangement, a recommendation should be obtained from the Provost.

On-Campus Activities Outside the Line of Duty

The appropriateness of a faculty member's conducting significant personal business on Institute premises is to be reviewed by the cognizant Division Chair and to be approved by the Provost.

The non-trivial use of Institute facilities outside a faculty member's line of duty is to be referred for approval to the Provost.

Off-Campus Teaching

Institute policy allows members of the professorial faculty to engage in consulting activities up to one day a week (see "Consulting Activities," this chapter). Teaching or participation in classes or seminars at other colleges or universities is permissible under these guidelines. Such teaching arrangements are to be short-term only, one-time commitments. Faculty may receive compensation for these efforts and, if listed in the catalog of another institution, should be listed with the "visiting" prefix before their title.

Even though these off-campus teaching activities fall under the general guidelines of consulting, they present some unique problems. Fixed time commitments, if the course is taught as a regular part of the curriculum of another institution, and the high visibility of such teaching arrangements, create a potential for misunderstanding. Therefore, all such arrangements must be approved by the Division Chair in advance. Note that the total commitment of time for all consulting and outside teaching activities must not exceed the one day a week limit.

Environmental, Health and Safety

The Caltech Environment, Health and Safety (EHS) Office is responsible for maintaining an environment for its faculty, staff, students, and visitors that will not adversely affect their health and safety, insofar as it is reasonably within the control of the Institute to do so. The Institute will comply with federal, state, and local health and safety regulations, or in their absence will use the standards of nationally recognized advisory bodies.

The EHS Office has technical expertise in the fields of Laboratory Safety, Fire and Life Safety, Emergency Preparedness, Environmental Health, Waste Management, Occupational Health, and Radiation Safety. The EHS office provides consultative services on hazard identification, analysis, and control and assists in developing safe handling techniques for hazardous materials and hazardous waste.

The EHS Office offers a full array of training opportunities that provide technical and administrative guidance relevant to campus operations and in compliance with the law. Continuing attention to and education in safe practices cannot be assumed to be optional.

The Administrative Committee on Radiation Safety and the Institute Biosafety Committee perform initial and continuing review of all research projects and activities that involve the use of radioactive material and radiation producing machines, and biohazardous material.

All functions of the EHS Office are supportive in nature. They in no way relieve individual faculty, supervisors, and employees of their direct responsibilities for safety. The EHS Office maintains an informational website with expanded coverage on pertinent environment, health and safety issues at www.safety.caltech.edu. For further assistance contact the EHS Office at (626) 395-6727 or by e-mail at safety@caltech.edu.

Gifts to the Institute

In order to ensure that the conditions involved conform to Institute policy and in the interests of good long-range relations with donors of private funds, members of the faculty are expected to inform the Office of the Vice President for Advancement and Alumni Relations of intentions to negotiate for gifts from individuals, corporations, or foundations. Such notice is to be given and approval granted prior to the actual negotiations with prospective donors to minimize possible misunderstandings that could result from multiple and uncoordinated approaches to the same donors.

In addition, those faculty members who wish to solicit prospective donors on their own or wish to enlist the help of the Development Office in soliciting private funds for their own particular projects are to first obtain approval from their Division Chair and the Provost. The Development Office then will assist faculty members in their solicitations with the understanding that the time allotted to any particular project must be a function of Institute priorities. To be regarded as a gift, the terms should not include specific deliverables nor any intellectual property rights for the donor.

When negotiations result in a favorable response, the faculty member should request or draft a letter to be sent by the donor outlining the terms of the gift to the Institute.

The President's Office, after consultation with the Provost, the Vice President and Chief Operating Officer, and the Vice President for Advancement and Alumni Relations concerning approval of any special financial conditions or other conditions involved, will write a letter accepting the gift under the terms agreed to, a copy of this letter going to the appropriate Division Chair and to the Provost, the Vice President and Chief Operating Officer, and the Vice President for Advancement and Alumni Relations.

The Vice President for Advancement and Alumni Relations may seek the help of faculty members in making suitable presentations and proposals to potential donors.

Lobbying and Political Endorsements

Because Caltech is a tax-exempt, nonprofit organization, no substantial part of its activities may be involved in attempts to influence federal, state, or local legislation. Therefore, any lobbying that might involve, in any way, Caltech as an institution must be coordinated with the Director of Government Relations, or the President's Office, so that Caltech's tax-exempt status is not jeopardized. This includes contacts by faculty members, on behalf of or using the name of Caltech, with members of Congress, state legislatures, boards of supervisors, and other law or rule-making bodies, or their staffs, for the purpose of influencing the passage or defeat of proposed legislation.

Faculty members endorsing a political candidate or a political position may use their titles and place of employment only for purposes of identification.

Nepotism

When a close relative of a faculty member is being considered for employment, appointment, reappointment, promotion, salary increase, or tenure in the same Division, the responsible Division Chair should seek advice from sources other than the faculty member in question. The Provost and, if appropriate, the Vice President and Chief Operating Officer will review all cases.

It is the policy of the Institute to discourage situations where Institute employees act as supervisors of close relatives or spouses, or others with whom they have a close relationship outside the Institute that might influence their judgment in a supervisory role.

Patent Policy

Adopted by the Executive Committee of the Board of Trustees on March 13, 2007

Inventions made by employees in the line of Institute duty or with the use of Institute facilities may be patented in order to protect and benefit the Institute and the public. Title to such patents is to be assigned to the Institute or, if appropriate, the sponsor. The cost of acquisition of such patents shall in no instance be borne by the employee.

It is the policy of the Institute that such patents be used for the public benefit. If there are innovations or discoveries that result in the filing of patent applications and the acquisition of patents, the Institute intends to serve the public interest by prudent and appropriate efforts to transfer the technology to those who will facilitate public use. When this result is achieved by the licensing of an invention or patent, income and/or equity may accrue to the Institute under terms negotiated at the Institute's discretion.

Where income is derived from such licensing, the inventor or inventors, collectively, will receive 25% of the income received by the Institute after the deduction of 1) unreimbursed external expenses associated with obtaining, maintaining, licensing and/or enforcing the patent or rights associated with the invention; and 2) the share of the income owed by Caltech to a third party pursuant to an income-sharing agreement between Caltech and the third party. In the event of multiple inventions in a license agreement, each inventor shall receive a proportion of that income according to Caltech internal procedures.

Where equity is derived from such licensing, the Institute will make no distribution of equity to inventors, but will make the distribution set forth in the previous sentence from the proceeds of the orderly sale of the securities at such times and in such amounts as determined in the sole discretion of the Institute in accordance with Institute policy, after the further deduction of brokerage and related expenses incident to the sale of the securities.

Inventors may opt, by means of a charitable donation to the Institute, to have all or any part of their share of the net income to be applied to support research of their choosing within the Institute. The Institute will then match

the amount contributed by the inventor for the research, on a dollar-for-dollar basis, so as to provide total research support from such income up to 50% of the net income received by the Institute. Inventors who elect to contribute may subsequently elect instead to retain their share of the net income from future royalties.

The remainder of the income derived by the Institute from the licensing of patents, after payment of the inventor(s)' shares will be applied to the furtherance of instruction and research. The Institute retains the right not to pursue the filing of any patent application, and not to pursue commercialization of any invention. In that event, the Institute may choose to assign the patent rights to the inventor(s) if that is consistent with its legal obligations.

All Institute employees shall sign a Patent and Copyright Agreement assigning their rights to patents or inventions that they may make in the line of their duties, or with any use of Institute facilities, to the Institute or, if appropriate, its sponsor.

Individuals who work on governmental or industrial projects undertaken by the Institute are required to sign such supplemental agreements as are necessary to enable the Institute to fulfill its contractual obligations in regard to patents.

All employees shall report to the Institute immediately any innovation or discovery that might reasonably be considered to be of a patentable nature and that arises in the line of their duties, or as the result of any use of Institute facilities. This obligation is not intended to interfere with the prompt publication of research results.

Inventions made by employees or students outside the line of Institute duties on the inventor's own time without any use of Institute facilities are not the property of the Institute. Patents from such inventions should be administered so as not to involve the Institute name.

It is important that inventors disclose to the Institute any funding from an agency of the United States Government that may relate to inventions. The Federal Bayh-Dole Act and implementing regulations (37 C.F.R. 401) grants patent rights to the Institute for inventions made under most federally funded research. In return, the Institute has reporting obligations regarding such inventions to the funding agency, and must grant a license to the government for its own use.

Any dispute concerning this policy or the distribution of royalties shall be resolved by appeal to the Provost.

The Institute places no restrictions on the rights or activities of Postdoctoral Scholars and Research Faculty in their subsequent careers after they leave Caltech. If departing Research Faculty or Postdoctoral Scholars require access to research data, computer programs, material samples, biological specimens or other research materials that they helped develop while at Caltech, the Institute will negotiate with them to provide continuing reasonable access to such materials, appropriate to the circumstances and consistent with its legal requirement to maintain originals of data and other results arising from sponsored research.

Procedure for Acquiring New Facilities

Policy and procedure on new facilities are guided by the Board of Trustees through its Committee on Buildings and Grounds.

Requests and justification for new facilities will be presented to the Provost and the Vice President and Chief Operating Officer. Subsequent major steps include further definition of fund sources, description, location, and costs. Additional major steps in the process include retention of architect, facility program, schematic design, working documents, contractor selection, construction, and activation. Authorization to proceed from one major step to another is usually contingent upon review and approval by the President and the Trustees' Committee on Buildings and Grounds.

Protection of Human Subjects

The Committee for Protection of Human Subjects performs initial and continuing review of all research projects and activities in which the California Institute of Technology is concerned that involve any use of human subjects or of tissues directly obtained from human subjects. The committee is particularly concerned that

1. The rights and welfare of subjects are adequately protected.
2. The risks to subjects are outweighed by potential benefits.
3. Appropriate informed consent of subjects is obtained.

Committee reviews are conducted in a manner to ensure the exercise of independent judgment of the members. Members will be excluded from judgment on projects or activities in which they have an active role or a conflict of interest.

No research project involving the use of human subjects shall be undertaken and no application for funds for the support of a research project involving human subjects shall be submitted from the Institute without the knowledge and approval of this committee.

Publications

Costs of Publications

Insofar as possible, when contract or grant support is not available, it is the Institute's policy to bear reasonable expenses involved in the publication of the results of research in the various professional journals. Staff members should consult the Chairs of their Divisions for the procedures to be followed.

Depositing Publications

All members of the faculty are encouraged to deposit reprints of their publications in their Division offices for the benefit of their colleagues and graduate students.

Research Involving Vertebrate Animals

The Administrative Committee on Animal Care and Use serves as the Institute's Institutional Animal Care and Use Committee (IACUC) and performs initial and continuing review of all research projects and activities in which the California Institute of Technology is concerned that involve the use of vertebrate animals or of tissues directly obtained from vertebrate animals. The committee is particularly concerned with procedures for the care, housing, use, and treatment of such animals.

Committee reviews are conducted in a manner to ensure the exercise of independent judgment of the members. Members will be excluded from judgment on projects or activities in which they have an active role or a conflict of interest.

No research project involving the use of vertebrate animals shall be undertaken and no application for funds for support of a research project involving vertebrate animals shall be submitted from the Institute without the knowledge and approval of this committee.

Royalties and Copyrights

Copyrights to and royalties from textbooks, reference works, submissions to scientific journals, and other copyrightable materials (except for computer software, which is treated below) produced by faculty members as a part of their normal teaching and scholarly activities at the Institute and that do not result from projects specifically funded in whole or in part by the Institute or by a sponsor of the Institute, shall belong to the author or authors and may be retained by them. If, on the other hand, the Institute provides funds, or a sponsor's funds, to finance (in whole or in part) a specific research or educational project and copyrightable materials are produced by employees as a result of the project, copyrights and royalty rights shall be owned by the Institute.

All rights to computer software, including computer programs, computer databases, and associated documentation ("computer software"), whether copyrightable or patentable, produced by employees or students in the line of Institute duty or with the use of Institute facilities, shall be owned by or assigned to the Institute, regardless of the source of funds used to produce the computer software. Computer software produced outside the line of Institute duty and on the author's own time, and without the use of Institute facilities, is not the property of the Institute.

Where the Institute receives income from the licensing or use of computer software or other copyrightable material belonging to the Institute, the author or authors, collectively, will receive 25% of the income received by the Institute after the deduction of unreimbursed legal expenses associated with obtaining and maintaining protection for the copyrightable material. If an author chooses to return any part of the royalty income to Caltech as a charitable donation, the Institute will match the donated amount in a fund to be applied to research of the author's choosing. The remainder of income derived by the Institute from the licensing or use of copyrights or computer software, after payment of the author's shares, will be applied to the furtherance of instruction and research. The Institute retains the right not to pursue the registration or commercialization of any copyrightable material, including

computer software. In that event, the Institute may choose to assign the copyrightable material to the author(s) if that is consistent with its legal obligations.

All Institute employees shall sign a Patent and Copyright Agreement assigning their rights in copyrightable materials authored in the manner set forth above. A copy of the agreement may be obtained from the Faculty Records Office.

All employees shall report to the Institute immediately any matter that might reasonably be considered to be of a copyrightable nature and that arises in the line of their duties, or as the result of the use of Institute facilities. This obligation is not intended to interfere with the prompt publication of research results.

Any dispute concerning this policy or the distribution of royalties shall be resolved by appeal to the Provost.

The Institute places no restrictions on the rights or activities of postdoctoral scholars and research faculty in their subsequent careers after they leave Caltech. If departing research faculty or postdoctoral scholars require access to research data, computer programs, material samples, or other research materials that they helped develop while at Caltech, the Institute will negotiate to provide continuing reasonable access to such materials, appropriate to the circumstances and consistent with its legal requirement to maintain originals of data and other results arising from sponsored research.

Authorship Disputes

The faculty and students of the California Institute of Technology are committed to disseminating the results of their research. Therefore, it is common practice to publish the results in professional journals, conference proceedings, and monographs. The authorship of these publications reflects the contributions of all participants in the research, following the accepted practices of the field of study and the Caltech honor code. Authorship requires a significant contribution to the conceptualization, design, execution, evaluation of the data and/or interpretation of the research and a willingness to assume responsibility for one's specific contributions to the research. In addition to authors, it is normal to acknowledge the contributions of people who assisted in the research but did not significantly contribute to the research reported in the publication.

While the broad principles regarding who is listed as an author are universal across fields, practices including the order of authors in multi-authored publications vary by discipline. It is long-standing practice at Caltech that the supervising member of the professorial faculty (the lead member of the professorial faculty in the case of collaborative research) makes the final decisions regarding the authorship of publications because the principal investigator is in the best position to understand the practices of the field and relative contributions of all authors.

On rare occasions, there are disputes regarding authorship. These may result from, but are not limited to, co-authors believing that their place in the list of authors does not fairly reflect their contributions, acknowledged individuals believing that their contributions are significant enough to merit authorship, and collaborative projects across different fields of study that have different practices. It is the policy of Caltech that authorship disputes do not constitute research misconduct.

Avoiding Authorship Disputes

Many of these disputes arise from mismatched expectations. Therefore, early, ongoing and open dialog is the most effective means of avoiding an authorship dispute. It is recommended that

1. members of the faculty have ongoing conversations with their students, postdoctoral scholars, and collaborators about their authorship expectations and practices;
2. authorship be discussed at the beginning of any collaboration and the discussion continue on an ongoing basis as the research evolves; and
3. authorship be discussed as soon as a publication is conceived and that discussion continue through the preparation and finalization of the publication;
4. members of the faculty consult authorship guidelines provided by agencies such as the National Science Foundation and National Institutes of Health, as well as various technical journals and professional societies in framing their decisions about authorship issues.

Resolving Authorship Disputes

- A. If the publication is a result of *research in a single research group*, any disputant who wishes to dispute a decision by the professorial faculty member should follow the following process:
 1. Work with the faculty member to try to resolve the dispute;
 2. If this does not lead to a resolution, appeal to the Division Chair. The Division Chair will work informally with the faculty member and the disputant to try to resolve the dispute;
 3. If this fails, the disputant asks the Division Chair to launch a formal authorship dispute process. The Division Chair, either in person or with the assistance of another uninvolved member of the professorial faculty, will study the matter in detail and make a recommendation in writing to the faculty member. The faculty member may either accept the recommendation or reject it. The rejection has to be in writing, and must explain in the detail the rationale for the rejection of the recommendation. The decision of the supervising faculty member stands. The Division Chair will inform the Office of the Provost of the outcome of the process. The report will include the parties involved, the process, the written recommendation and response. This ends the process.

- B. If the publication is the *result of a collaboration between two research groups* at Caltech, any disputant who wishes to dispute a decision by any of the collaborating professorial faculty members should follow the following process:
 1. Work with the collaborating faculty members to try to resolve the dispute;
 2. If this does not lead to a resolution, appeal to the Division Chair (or Division Chairs if people from more than one division are involved). The Division Chair(s) will work with the collaborating faculty members and the disputant to try to resolve the dispute;
 3. If this fails, the disputant asks the Division Chair to launch a formal authorship dispute process.
 - a. If all the collaborating faculty members are in agreement on the course of action, the Division Chair(s) will follow the process described in A3 above.
 - b. If the collaborating faculty members are not in agreement on the course of action, the Division Chair(s) will appoint a three-member committee of uninvolved members of the professorial faculty to study the matter in detail and make a recommendation in writing. The collaborating faculty members may either accept the recommendation or reject it. The rejection has to be in writing, and must explain in the detail the rationale for the rejection of the recommendation. If all collaborating faculty reject the recommendation, their decision is final and the Division Chair(s) will follow the process described in A3 above. If one collaborating faculty member accepts while another rejects this recommendation, the Division Chair(s) will inform the Office of the Provost of the outcome of the process. The report will include the parties involved, the process, the written recommendation and response. The Provost will convey the fact that there is an authorship dispute and the recommendation of the faculty committee to the publisher of the publication. This ends the process.

Sponsored Research and Other Sponsored Activities

This section outlines the policies and procedures involved in soliciting and accepting financial support from external sponsors for research and other types of externally supported activities.

The Office of Sponsored Research is the Institute administrative office responsible for providing information and administrative guidance to faculty and staff in the preparation and submission of proposals as well as the negotiation and acceptance of awards for the external support of sponsored research and other activities. The office is the official Institute contact point for sponsored activities when a formal agreement, grant, contract, or cooperative agreement with the Institute is contemplated that includes terms and conditions such as ownership of intellectual property and/or data; rights to publish; specification of deliverable items (e.g., periodic research reports, hardware, software, etc.); limitations on the use of funds; specification of milestones, objectives, or spending plans that are required for collecting funds; or specified time periods over which the activity is to be conducted in order for the Institute to receive payment. The sponsors include federal agencies, state and local government agencies, corporations, other universities, independent or government supported research laboratories, voluntary health organizations, or other organizations that customarily support research at colleges and universities.

The Offices of Corporate or Foundation Partnerships within the Development Office provide assistance and guidance in approaching philanthropic foundations and corporations for obtaining gifts and grants that can be used

for the support of research where the contemplated award to the Institute does not impose conditions on reporting, deliverables, and accountability that are generally found in sponsored projects.

Policies Governing Sponsored Research

The extent of the Institute's research program and its ability to be a leader in performing world-class research has been facilitated by the extensive external support obtained from grants and contracts awarded by federal and non-federal sponsors. While it may be considered desirable to have such external support in order to maintain the magnitude of the Institute's research programs, it is essential that the Institute retain control of its research program and undertake research activities that contribute to its educational and scholarly objectives. To these ends the following policies have been established:

1. Faculty members of professorial rank and senior research faculty, under conditions described in Chapter 4, may serve as principal investigators on sponsored research projects. Other faculty, members of the Beckman Institute, postdoctoral scholars, members of the professional staff, or, on rare occasions, other staff members, with the approval of their Division Chair and the Vice Provost, may serve as principal investigator under special circumstances and with the understanding that a supervising professorial faculty member assumes responsibility for the validity and importance of the research and management of the budget. The Institute discourages the use of the term co-principal investigator. In instances where multiple co-principal investigators are listed in the proposal, the proposal should identify a single Principal Investigator who will assume primary responsibility for the project.
2. Principal investigators and other key members of the sponsored project research team are expected to comply with Institute policies regarding performance of research at the Institute. In addition, they must pay particular attention to those policies and procedures of the sponsor covering certain types of compliances and associated assurances that the Institute must submit when seeking support from the sponsor. The principal investigator will assume the responsibility for seeing that all key members of the research team are familiar with these regulations and policies and that all required assurances and compliances are filed in a manner consistent with good project management and/or required deadlines. Typical federal statutory requirements include assurance of freedom from federal debt; assurance that notification will be given of debarment, suspension, or other personal legal action involvement with a unit of local, state, or federal government; agreement to disclose any type of lobbying activities; familiarity and compliance with procurement integrity and anti-kickback requirements; compliance with policies on ownership of intellectual property, data, and other forms of products resulting from research; adherence to government-approved Institute policies and assurances governing the use of human subjects and animals, the use of radioactive materials or radiation-producing sources, the use of techniques involving recombinant DNA molecules, and the use, transportation, or disposal of hazardous materials; and compliance with policies governing conflict of interest or misconduct in science, to name a few. Information on or copies of these regulations and associated assurance documents can be obtained from the Office of Sponsored Research or the Office of Research Compliance.
3. The Institute accepts awards, in the form of a grant, contract, or other type of legal agreement, from an external sponsor for the support of a faculty member's research project if the terms and conditions are consistent with the following principles:
 - a. The scope of the work shall involve research falling clearly within the Institute's educational and research program, supplementing or making a positive addition to that program, and being of such nature that the Institute would undertake the research if its own funds were adequate.
 - b. The Institute shall be free to publish and otherwise disseminate the results of sponsored research performed by faculty, staff, or students.
 - c. To comply with the sponsor's requirements on distribution and other uses of research results, the Institute will normally own the technical data and other products generated from a sponsored project, with the principal investigator and other key members of the research team being permitted to retain copies of such data and information for their own use.
 - d. Ownership of intellectual property generated from the research shall be governed by the Institute's current policies. Generally, the Institute will retain title to all inventions and possible resulting patents arising from externally sponsored research (see "Patent Policy," this chapter). The sponsor will be given a nonexclusive, royalty-free license, without the right to sublicense, to use or practice a patented invention made solely by Institute employees and resulting from work supported by that sponsor at the Institute. Under some circumstances, the Institute may negotiate to grant the sponsor the option of securing an

exclusive royalty-bearing license on such inventions and resulting patents (see “Rules Concerning Patent Rights and Research Support,” under “Conflict of Interest, Conflict of Commitment, and Technology Transfer,” this chapter). Inventions and resulting patents made jointly by Institute and sponsor employees shall be jointly owned. Copyrights shall be owned by the Institute when the copyrighted work is considered to be a work made in the line of Institute duty or with the use of Institute facilities (see “Royalties and Copyrights,” this chapter). Licensing of Institute-owned copyrights will generally follow the same policies as for licensing of inventions and patents. Other rights may be granted to the sponsor only with the approval of the Patents and Relations with Industry Committee and, in some cases, the Board of Trustees.

e. The Institute will not undertake classified or proprietary research. Further, the Institute normally does not desire to receive information that the sponsor considers proprietary or confidential.

f. Arrangements with the sponsor shall not impose restrictions on the Institute that are in conflict with its established policies and practices, and should permit performance of the research in the same manner as research financed with the Institute’s own funds.

g. Any deviation from the policies set forth under (a) through (f) above requires specific approval of the committee(s) concerned, the President, and if deemed by the President to be desirable, the Board of Trustees. In particular, with suitable approval, awards for work falling outside the Institute’s normal program may be undertaken for the government in times of emergency, or if it in other ways qualified as a unique service to the community or the nation’s security or well-being.

h. Results of sponsored research or testing shall not be used for advertising, publicity, or other commercial purposes, nor shall the name of the Institute be used in any way, whether in the form of written or verbal statements, that could constitute or imply an endorsement by the Institute of any commercial product or service, without the prior written approval of the Institute.

4. The Institute has certain unusual, or even unique, items of equipment or facilities for conducting tests and investigations of various kinds. When mutually advantageous arrangements can be agreed upon, and when the work cannot be conducted as well in the sponsor’s own laboratories or in a commercial laboratory, such equipment or facilities may be used for conducting tests or investigations for outside agencies, or the Institute may undertake to design, build, and operate special facilities on a sponsored basis. All such arrangements require the use of a Facilities Use or Technical Services Agreement, negotiated by the Office of Sponsored Research.
5. An individual serving as a principal investigator on, or assigned to participate in, sponsored research (whether or not any portion of the individual’s salary is charged to the sponsored research funds) shall not by virtue of such an arrangement receive extra compensation unless there is clear and compelling evidence that such duties constitute added responsibilities above and beyond the individual’s normal work assignment. When in the judgment of the President or a designee, the direction of important Institute affairs (whether sponsored or not) warrants an adjustment in salary, the individual may be awarded an increase in recognition of the increased responsibilities. Such an increase should be clearly designated as contingent upon the continuation of the additional responsibilities or activities, and the individual will be informed as to what portions, if any, of the salary are on a contingent basis.

Procedures for Submitting Proposals and for Accepting Awards

1. Before making any commitment to a potential sponsor, or submitting a written proposal or application for a contract, grant, cooperative agreement, or restricted gift, the faculty member who is to serve as principal investigator or otherwise assume responsibility for the performance of the research program shall make sure that:
 - a. the project is consistent with the mission and objectives of the Institute and, where appropriate, the Division;
 - b. the personnel, space, and other necessary physical resources are available or have been provided for in the budget;
 - c. commitments for Institute cost sharing or matching funds have been secured;
 - d. commitments by proposed participating individuals and/or organizations have been secured; and
 - e. required Institute and sponsor clearances, approvals, and where necessary, permissions to deviate from Institute policies, have been identified and steps are under way to have these obtained in a timely manner.
2. The following offices or individuals can be contacted for guidance and assistance in dealing with a potential sponsor and submitting a proposal or application:

- a. The Division Office—to resolve issues about the content of the planned program; the level of effort of principal investigator and other key individuals; potential possible conflict of interest situations; availability of required resources such as required matching funds, space, and undergraduate and graduate students; and any other matters that would impact the Division or the faculty member’s functioning within the Division.
 - b. The Office of Sponsored Research—for application forms, information on sponsoring agency and Institute policies on sponsored research, budget preparation assistance, and required certifications and/or assurance documents. Sponsored Research can supply sample agreements for use with non-federal sponsors and will normally negotiate the sponsored award terms and conditions on behalf of the Institute.
 - c. The Offices of Foundation Relations or Corporate Relations—to obtain information and assistance in pursuing restricted or unrestricted gift support or grants from corporations or philanthropic organizations.
 - d. The Office of the Vice President and Chief Operating Officer—for unusual financial requirements or deviations from the Institute’s normal policies on costs to be included in research proposal budgets.
 - e. The Office of Technology Transfer or the Office of General Counsel—for advice and assistance on matters pertaining to disclosure, ownership, and/or licensing of intellectual property.
 - f. The Vice Provost—for matters pertaining to the Institute’s policies governing research and for approval to serve as a principal investigator for individuals who do not hold a professorial faculty appointment.
 - g. The Office of Research Compliance—for information regarding compliance with federal and state research regulations and Institute policies governing research.
 - h. The Provost—for matters pertaining to academic policy.
 - i. The President—for matters of general policy.
3. Formal proposals or applications requesting external funding for research and other sponsored activities must be submitted either by the Office of Sponsored Research or the Offices of Foundation Relations or Corporate Relations. All applications for new, noncompeting continuation, renewal, or supplemental awards or revisions to proposals or program budgets requested by the sponsor must be accompanied by a completed Division Approval Form (DAF) that will have the signatures of the appropriate Institute officials who are required to approve certain aspects of the application and contemplated research program. In addition, new proposals that have proposed budgets of \$1,000,000 per year or more and renewal proposals having budgets in excess of \$2,000,000 per year, or any proposals that the President designates, must receive approval from the Executive Committee of the Board of Trustees prior to acceptance of an award. In cases where an agreement is negotiated between a potential sponsor and the Institute prior to submission of a formal proposal, or funds are awarded by a sponsor with the submission of a proposal through normal Institute channels, a statement of work, a budget, and a completed DAF must be processed through the Office of Sponsored Research. The Office of Sponsored Research will arrange for these reviews and for the necessary Institute signatures on the proposal or application and will negotiate any requirements contained in the award document offered by the sponsor that impact compliance with Institute policies on sponsored research.
4. Proposals for testing programs require approval from the Division Chair or other official responsible for oversight of the laboratory or facility to be used in the testing program, and the Office of Sponsored Research.
5. Proposals requesting funding for research from external companies in which Caltech employees may have an interest shall be handled by the Office of Sponsored Research, but such requests for funding must be cleared by the Division Chair, and an approved Research Management Plan must be in place prior to the start of negotiations with the company for sponsoring research.
6. Requests for restricted and unrestricted gifts to the Institute shall be reviewed by the office of the Vice President for Advancement and Alumni Relations and the Provost before approval by the President.
7. Proposals for awards to support graduate student fellowships, individual graduate student financial support applications, and institutional graduate student traineeship applications, require the approval of the Dean of Graduate Studies on the DAF, in addition to the normal Division approval, prior to submitting the application to the Office of Sponsored Research for processing and signature.
8. Requests for support of educational projects, summer institutes, and similar activities, as well as proposals for support for the purchase of equipment or renovation of facilities shall be handled by the same procedures as described above.
9. Requests for use of Caltech Facilities or Technical Services provided by Caltech shall be handled by the Office of Sponsored Research who will consult with all appropriate administrative offices.

Taping of Public Speeches

It is the practice of the Institute to tape public campus speeches of topical or historical interest. (Public speeches are defined as those given outside normal academic channels in settings easily accessible to public attendance.) However, no taping will be undertaken by the Institute, and no Institute tapes will be made available to the public, without the speaker's permission.

Travel

All travel will be in accordance with the "Caltech Travel Policy" issued by the Office of Financial Services, or as they may be amended, together with any special instructions enumerated below. Information regarding coverage under the Institute's blanket trip-insurance policy may be obtained from the Human Resources office.

Method of Transportation

The Board of Trustees has ruled that Institute employees are not permitted to use privately owned aircraft while traveling on Institute business.

Travel to Meetings

Within the limits of their budgets, and in the absence of contract or grant support, the Divisions may provide financial assistance to faculty members who are presenting papers at meetings of national professional societies or are attending important committee meetings in this country.

The Institute is required for income tax purposes to report payments for travel unless an accounting has been filed showing that the travel expense was equal to or in excess of the travel grant.

Travel on Institute Business

Faculty members and other employees who travel on authorized Institute business will be reimbursed for necessary expenses incurred in connection with such travel. Upon return, the individual is required to submit a travel expense report to the Travel Department, itemizing expenses of the trip within 30 days after completion of the trip.

Travel Chargeable to Special Funds and Government Agreements

Reimbursement of travel expenses from special appropriations or funds requires the approval of the person responsible for administering the fund. Travel performed in connection with a government agreement will, in addition, be regulated by the provisions of that agreement.

Tuition Exemption

Children of employees may attend the Institute as undergraduate students without payment of the tuition fee, subject to the following provisions:

1. The parent must be a full-time, benefit basis employee who has fulfilled the probationary period of employment with the Institute.
2. The children must satisfy the regular entrance requirements of the Institute, whether for admission to the freshman class or to one of the upper classes by transfer from another institution of college rank;
3. The children must maintain standards of scholarship and conduct considered satisfactory by the deans;
4. The children of eligible parents will continue to be eligible if the parent remains at the Institute, retires under an established Institute retirement plan, is on an approved leave of absence, or dies;
5. If a parent, whose children are receiving tuition benefits, ceases to be eligible for reasons other than retirement, disability, or death, such tuition benefits shall cease; and
6. Children of employees may complete the term they are currently enrolled in if their eligible parent is on leave of absence without salary.

Children are defined as natural born, legally adopted, stepchildren who live at the same address as the employee, and foster children who live in the home of an employee or have been supported primarily by the employee for at least three (3) years immediately prior to enrollment at the Institute.

Eligibility for tuition exemption does not exclude such undergraduate students from consideration, on the same basis as other undergraduates, for cash grants which may be made to students of high scholastic standing upon demonstration of financial need.

Use of the Institute's Name

Caltech does not approve or endorse specific commercial products or services. Normally the Institute does not permit its name to be used at all in publicity for such products or services, but specific exceptions to this rule may be approved by the Vice Provost if they are deemed to be in the best interests of the Institute.

Other rules concerning the use of the Institute's name may be found in this chapter under "Consulting Activities" and "Candidacy for Public Office."

Institute Policies

The following and other Institute policies can be found at <https://hr.caltech.edu/resources/institute-policies>:

- Acceptable Use of Electronic Resources
- Compliance with Export Laws and Regulations
- Conflicts of Interest
- Disability and Reasonable Accommodation
- Environment, Health, and Safety
- Nondiscrimination and Equal Employment Opportunity
- Sex-and Gender-Based Misconduct
- Substance Abuse
- Unlawful Harassment
- Violence Prevention
- Whistleblower Policy