

Open Access Task Force – Implementation Team Progress Report

2020-11-09

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Executive summary

This report outlines the progress to date of the Open Access Task Force Implementation Team (OATF-IT), first convened in December 2019 to prioritize, shepherd, and support the [final recommendations \(October 2019\)](#) of the MIT-wide [Ad Hoc Task Force on Open Access to MIT's Research](#) (OATF). The OATF launched in 2017 to update and revise the Institute's policies and practices around open publications, data, educational materials, and software. The OATF-IT is actively working on the following recommendations:

- [Recommendation 1: All-campus OA policy](#)
- [Recommendation 3: Clarify and consolidate thesis holds policies](#)
- [Recommendation 6: Develop a data registry](#)
- [Recommendation 9: Code and software](#)
- [Recommendation 10: DLC plans to encourage open sharing](#)
- [Recommendation 12: Institutional advocacy for open science](#)
- [Recommendation 14: Form OATF recommendations implementation team](#)

Owing to a variety of reasons, including financial and resource constraints, reordering of Institute priorities, and diverted attention due to COVID-19 response management demands, work on the following recommendations has been delayed:

- [Recommendation 2: OA policy for monographs](#)
- [Recommendation 4: OA requirement for internal MIT grants](#)
- [Recommendation 5: Open Data Fund](#)
- [Recommendation 7: Funds for OA initiatives](#)
- [Recommendation 8: Increase the impact of open educational content](#)
- [Recommendation 11: Recognition for data sharing](#)
- [Recommendation 13: MIT's International Advisory Committee](#)

Many of these recommendations require institutional support of some kind. The particular needs for each recommendation have been noted in the document body.

OATF-IT Background

In July 2017, MIT Provost Martin Schmidt charged an Institute-wide [Ad Hoc Task Force on Open Access to MIT's Research](#) (OATF) with exploring ways that MIT should update and revise its current open access (OA) policies around publications, data, software, and educational materials. The goal was to “further the Institute’s mission of disseminating the fruits of its research and scholarship as widely as possible.”

A draft set of recommendations was [released in March 2019](#) for public comment, and this valuable input provided by the community was incorporated into the task force’s [final recommendations released in October 2019](#). An OATF Implementation Team (OATF-IT), whose charge is to prioritize, shepherd, and support the final recommendations, began its work in December 2019.

Since its kick-off, the OATF-IT has met 16 times, at an intended frequency of every two weeks. Chris Bourg initially chaired the team, with Amy Nurnberger joining her as co-chair in June 2020. Lindsey Weeramuni and Jay Wilcoxson joined the team in late January 2020. The world has changed dramatically in the last months, as the response to the COVID-19 pandemic has required the entirety of the team to work from various states of lockdown. Despite these challenges, we have continued to meet and have made significant progress on many recommendations.

The team’s first step was to prioritize action on implementing the recommendations and whether work should, broadly, happen Now, Next, or Later. The next section of this report includes reasoning for the timeline designation, as well as accomplishments, next steps, and needs.

Members

Peter Bebergal, Technology Licensing Office

Karen Shirer, Office of the VP for Research

Chris Bourg, MIT Libraries

Lindsey Weeramuni, Open Learning

Katharine Dunn, MIT Libraries

Jaren Wilcoxson, Office of the General Counsel

Amy Nurnberger, MIT Libraries

Marianna Pierce, Human Resources

Status of individual recommendations

Starting in December 2019, the OATF-IT prioritized [14 recommendations](#) and began work on implementation. The coronavirus pandemic has, in some cases, forced us to delay action or shift our focus due to time, attention, and resource constraints.

This section describes the current stage of activity on each recommendation, whether it is something we are working on Now, Next, or Later; our reasoning for assigning that stage; what has been accomplished or what the next steps are; and what is needed for successful implementation.

| <u>Recommendation</u> | <u>Status</u> |
|--|----------------------|
| 1: All-campus OA policy | Now |
| 2: OA policy for monographs | Later |
| 3: Clarify and consolidate thesis holds policies | Now |
| 4: OA requirement for internal MIT grants | Later |
| 5: Open Data Fund | Later |
| 6: Develop a data registry | Now |
| 7: Funds for OA initiatives | Later |
| 8: Increase the impact of open educational content | Next |
| 9: Code and software | Now / Next |
| 10: DLC plans to encourage open sharing | Now |
| 11: Recognition for data sharing | Later |
| 12: Institutional advocacy for open science | Now |
| 13: MIT's International Advisory Committee | Next |
| 14: Form OATF recommendations implementation team | Now |

Policy recommendations

Recommendation 1: All-campus OA policy

Adopt an all-campus open access policy, granting MIT non-exclusive permission to openly disseminate scholarly articles written by any MIT author.

- Status: Now
- Reasoning: This is a revision of an existing policy, MIT's 2009 Faculty OA Policy, extending its coverage from faculty to any MIT author.
- Accomplishments/Next steps:
 - Drafted language for this revision.
 - Circulating draft policy language among the OATF and other stakeholders for feedback.
 - Completed estimations for resources necessary to extend existing infrastructure supporting this increased coverage.
 - Will be putting forward revised policy for discussion and acceptance by the appropriate Institute groups. Because this is an instance of applying existing faculty policy to non-faculty, it does not require a vote of the faculty. If accepted, it will be added to [Policies & Procedures, 13.0 Information Policies](#).
- Needs:
 - Review, discussion, and approval by appropriate Institute committees, including Dean's Group and Academic Council.
 - Resourcing for extended infrastructure and for marketing and socializing this policy revision.

Recommendation 2: OA policy for monographs

Adopt an open access policy for scholarly monographs, granting MIT non-exclusive permission to openly disseminate digital versions of monographs written by any MIT author. Establish an Open Monograph Fund to support MIT authors.

- Status: Later
- Reasoning: For maximum impact, this recommendation would require significant funding from departments, schools, and/or the provost, and the financial constraints associated with COVID-19 make it more difficult to prioritize this funding.
- Accomplishments/Next steps: Completed estimate of funding need.

- Needs: Funding at the rate of approximately \$15,000-\$20,000 per monograph and approximately 30 monographs per year.

Recommendation 3: Clarify and consolidate thesis holds policies

Clarify, consolidate, and publish the policies regarding thesis holds/embargoes on the MIT Policies website. The policy should specify that requests for a hold/embargo of longer than three months must be approved by the Vice President for Research, in consultation with the Technology Licensing Office and/or the Office of Graduate Education, and must be supported by evidence of a pending patent application, a book contract requiring an embargo, and/or evidence of extenuating circumstances related to safety, confidentiality, or national security interests.

- Status: Now
- Reasoning: This is a consolidation of currently available guidance and a revision of an existing policy ([13.1.3](#)), which now designates where to request a hold or restriction on the public distribution of a thesis.
- Accomplishments/Next steps:
 - Drafted language for a revision to 13.1.3.
 - Circulating draft policy language among stakeholders for feedback.
 - Consolidating guidance and information resources, focusing on the Office of Graduate Education, Technology Licensing Office, and the MIT Libraries as the main sources for these.
 - Will put forward revised policy for discussion and approval by the appropriate Institute groups.
- Needs:
 - Designation of an Academic Council subgroup for approval of proposed revisions.
 - Direction to departments that websites should point students to the guidance on the websites of the Office of Graduate Education, Technology Licensing Office, and the MIT Libraries.

Recommendation 4: OA requirement for internal MIT grants

Consider adding an open access requirement to all existing and new internal MIT research grant programs that calls for immediate open access publishing of articles by grant recipients.

- Status: Later
- Reasoning: Lack of time and attention to analyze and build consensus. We have yet to identify a champion for this recommendation.
- Accomplishments/Next steps: None available at this time
- Needs:
 - Opportunity to consult with the community to understand the impacts of implementing this recommendation and their needs for effectively managing this change.
 - Institutional time and attention dedicated to championing and modeling open access behavior. This may be encouraged by the potential federal executive order for a “[national open access policy](#)” that would remove 12-month embargo periods from public access to publications resulting from federal funds.

Infrastructure and Resource Recommendations

Recommendation 5: Open Data Fund

To support the open sharing of data created and originating at MIT (not pre-existing data or data acquired from external sources) the Institute should create an Open Data Fund to support projects based on FAIR Data Principles (Findable, Accessible, Interoperable, Reusable).

- Status: Later
- Reasoning: Lack of time and attention to analyze and build consensus. We have yet to identify a champion for this recommendation.
- Accomplishments/Next steps: OATF-IT has developed a working definition for “research data:”

Research data means data in the form of facts, observations, images, computer program results, recordings, measurements, or experiences on which a research output — an argument, theory, test or hypothesis, or other output — is based. The term “research data” relates to data generated, collected, or used during research projects, and in some cases may include the research output itself. Data may be numerical, descriptive, visual, or tactile. It may be raw or primary (e.g., direct from measurement or collection) or derived from primary data for subsequent analysis or interpretation (e.g., cleaned up or as an extract from a larger data set), or derived from existing sources where the rights may be held by others. Data may be cleaned or processed, analyzed, or published and

archived, and may be held in any format or media. In many disciplines, understanding the research data may by necessity require inclusion of other research products such as software, algorithms, models, and/or parameters that are processed or trained by, or used with, raw or primary data to arrive at the research outcome. A complete research data package may also incorporate documentation required to understand the data and/or its use, in addition to the raw data to which the software, algorithm, or model is applied. It should be noted that intellectual property rights associated with the various elements of a complete research data package may be managed separately or distinctly from each other.¹

This definition will also be used in working on Recommendations 6, 9, 10, 11, 12, and 13.

- Needs: Institutional time and attention dedicated to modeling open research behavior and to financially support open sharing and dissemination of knowledge.

Recommendation 6: Develop a data registry

To support the long-term sustainability and discoverability of open data, the MIT Libraries should investigate developing and maintaining a data registry that indexes MIT-created data and links data to publications, grants, and other outputs and supporting materials.

- Status: Now
- Reasoning: This was a recognized need of the Institute and a planned Libraries project.
- Accomplishments/Next steps:
 - Producing a pilot of this resource; partnering with a limited number of research groups on development and inclusion.
 - Initiated conversations with Institute stakeholders around institutionally consistent approaches to data use agreements, as both a receiver and a transmitter, and to data licensing.
- Needs:
 - Coordination with implementation of other recommendations (e.g., DLC plans [10], open data fund [5], recognition for data sharing [11], open science advocacy [12]), that will incentivize data publication and use of the registry.

¹ This definition was adapted from the following sources: https://www.mopp.qut.edu.au/D/D_02_08.jsp#D_02_08.04.mdoc, <https://www.data.cam.ac.uk/university-policy>, <https://www.energy.gov/datamanagement/doe-policy-digital-research-data-management-glossary>

- For maximum impact, this recommendation requires incentive structures that motivate data producers and contributors to contribute to the data registry, either directly or via use of research data repositories. This will highlight their data production and distribution, amplify their research results and impact, and demonstrate the breadth of research conducted by their DLC.
- From the Research Data Registry (RDR) - Planning Stage Report, “Success of the RDR depends upon obtaining buy-in of the Institute administration and faculty, particularly at the departmental level and in the form of accepted practices and an incentive structure. The OATF-IT will be critical in defining and executing a plan to obtain buy-in from the MIT departments, create an incentive structure, and not impose an undue burden on our researchers without sufficient resources.”

Recommendation 7: Funds for OA initiatives

The Institute should provide funding for open access initiatives on two critical fronts: 1) support for open access work and initiatives spearheaded by MIT scholars; and 2) support for open access infrastructure, such as tools and services that reduce the burden on and/or create incentives for authors to openly share their work.

- Status: Later
- Reasoning: Lack of time and attention to analyze and build consensus. We have yet to identify a champion for this recommendation.
- Accomplishments/Next steps: None available at this time.
- Needs: Institutional time and attention dedicated to modeling open access behavior and to financially support open sharing and dissemination of knowledge.

Recommendation 8: Increase the impact of open educational content

Educational materials generated at MIT exist in a number of settings, including but not limited to, OpenCourseWare, MITx, MIT xPro, J-WEL, MIT professional schools, and MIT graduate and undergraduate courses. We are pursuing clarity on the scope of these recommendations with regard to these settings and their potential application to or extension beyond <https://openlearning.mit.edu/>.

8.a. Publication standard

Adopt and promote a publication standard (addressing file types, access controls, etc.), such as the standard currently being developed by MITx/edX for educational materials, that ensures open access and interoperability.

- Status: Next
- Reasoning: The referenced “standard currently being developed,” does not exist. Work is being done to adopt [Common Cartridge](#), which facilitates a technical exchange of learning object metadata but does not create a standard for initial publication of materials. This has delayed progress on this recommendation.
- Accomplishments/Next steps: Identified key stakeholders.
- Needs: Opening conversations on scope and intentions with MIT’s Open Learning Senior Management.

8.b. Optimize learning management systems (LMS) for “open”

Optimize the design of current and future MIT learning management systems (including Stellar) so creators can easily make materials as open as possible. One example would be to make class materials available by default to all MIT students, not merely those enrolled in the class, while providing instructors the ability to choose other sharing options.

- Status: Next
- Reasoning: MIT is currently transitioning its LMS to Canvas as part of responding to COVID-19 conditions. This has limited the amount of attention available and priority given to associated LMS optimizations.
- Accomplishments/Next steps: Identified key stakeholders.
- Needs:
 - Attention, willingness, and space to pursue these discussions from technological and philosophical perspectives.
 - A better understanding of the IP and copyright implications for both faculty materials and third-party materials that are often present on Canvas or Stellar pages.

8.c. Specify licenses and processes for open licensing of educational materials

Specify approved open access licenses and licensing procedures for MIT publication of educational materials, recognizing that these materials may incorporate content, code, and interactive elements.

- Status: Next
- Reasoning: The identification and designation of appropriate licenses for open education materials (OERs) requires an investment in initial conversations that still needs to be made. Given the prioritization of the COVID-19 response, there has been insufficient time and attention available for this investment.
- Accomplishments/Next steps: Identified a selection of appropriate stakeholders.
- Needs: Attention, willingness, and space to pursue these discussions from both technological and philosophical perspectives.

8.d. Streamlined open license educational materials publication paths

Provide streamlined paths for publishing all educational material under open licenses on platforms like MIT OpenCourseWare (OCW).

- Status: Next
- Reasoning: Development of the NextGen OCW is underway. The [Open Learning Library](#) has already been launched and is being built out. Both projects create streamlined paths for publication of educational materials. Materials are available under a variety of terms, which are often obscured.
- Accomplishments/Next steps: Initiate conversations about taking advantage of these development and buildout projects to make open licensing an easier choice for faculty.
- Needs: Attention, willingness, and space to pursue these discussions from both technological and philosophical perspectives.

8.e. Improve discoverability of open educational materials

Adopt and promote tools and services to enhance the discoverability of open educational materials.

- Status: Next
- Reasoning: Development of the NextGen OCW is underway. The Open Learning Library has already been launched and is being built out. Both projects create streamlined paths

for publication of educational materials. Materials are available under a variety of terms, which are often obscured.

- Accomplishments/Next steps: Initiate conversations about taking advantage of these development and buildout projects to enhance discoverability of open educational materials.
- Needs: Attention, willingness, and space to pursue these discussions from both technological and philosophical perspectives.

Recommendation 9: Code and software

Encourage more open sharing of code and reduce the potential negative impact of the proliferation of software patents on entrepreneurship and innovation.

9.a. and b. Recommended open software licenses and guidance on their use

Develop a set of recommended open licenses for software produced by MIT. Create and publicize guidelines, policies, and practices for publishing code under open source licenses.

- Status: Now
- Reasoning: The sub-elements a. and b. of Recommendation 9 work in concert and build on established work by TLO.
- Accomplishments/Next steps:
 - Identified the appropriate stakeholders within TLO.
 - Will be engaging in conversations about how existing information and guidance can be made more robust, visible, and accessible to the MIT community.
- Needs: Attention, willingness, and space to pursue these discussions from both technological and philosophical perspectives.

9.c. Review software licensing practices to ensure they promote innovation and encourage MIT authors who wish to distribute code openly under popular open source licenses.

- Status: Next/Later
- Reasoning: We are pursuing clarity on the scope of this recommendation with regard to current TLO approach, practice, and policy.
- Accomplishments/Next steps:
 - Identified the appropriate stakeholders within TLO.
 - Engaging in conversations about this recommendation's motivation, intent, and scope and how it integrates with current TLO responsibilities and processes.

- Needs: Institutional attention, willingness, and space to pursue these discussions from both technological and philosophical perspectives.

Advocacy and Awareness Recommendations

Recommendation 10: DLC plans to encourage open sharing

The Provost should direct the leader of each department, lab, and center (DLC) to develop a plan to encourage and support the open sharing of research, as appropriate for their discipline(s).

- Status: Now
- Reasoning: Despite limited time and attention, we have been able to initiate some preparatory work. Much of the main body of work has been delayed owing to shifts in faculty and institutional priorities resulting from management of COVID-19.
- Accomplishments/Next steps:
 - Preparing a draft template for departmental plans, using as guidance a toolkit created by [The National Academies' Roundtable on Aligning Incentives for Open Science](#).
 - Will be sharing draft templates with three pilot DLCs (including Linguistics, whose faculty have already agreed to participate) and iterate on the best approach for their communities, incorporating these learnings into future versions of plan templates.
 - Will be approaching the Provost with a plan for carrying this recommendation forward once a satisfactory set of templates is developed.
- Needs:
 - Two more DLCs to pilot the process of creating a plan to encourage open sharing.
 - Institutional will and senior faculty commitment to model open research behavior and to support open sharing and distribution of knowledge.

Recommendation 11: Recognition for data sharing

MIT should advocate for greater recognition of and credit to researchers who share data, including those who prepare data for sharing.

- Status: Later
- Reasoning: Lack of time and attention to analyze and build consensus. We have yet to identify a champion for this recommendation.

- Accomplishments/Next steps: None available at this time.
- Needs:
 - For maximum impact, this recommendation requires incentive structures that recognize data producers and contributors and motivate them to develop and distribute data in ways that promote open research. This will demonstrate the breadth of research conducted by their DLC, amplifying their research results and impact.
 - Funding and resources to support the recommended award.

Recommendation 12: Institutional advocacy for open science

MIT should continue to collaborate with peers across academia and elsewhere to advance open science and should continue to consistently advocate with the federal government in support of policies and legislation that advance the Institute’s commitment to open access to research as part of its mission.

- Status: Now
- Reasoning: MIT has collaborated and advocated to advance open science and research in the past and will likely continue to do so.
- Accomplishments/Next steps:
 - Participation in the [AAU/APLU meeting on Advancing Public Access to Research Data](#) in February 2020.
 - Participation in the [NASEM Roundtable on Aligning Incentives for Open Science](#)
 - MIT Libraries’ response to the Office of Science and Technology Policy (OSTP) RFI “Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting from Federally Funded Research” ([2020-03189](#)), endorsed by MIT’s Committee on the Library System.
 - MIT Libraries’ response to the OSTP RFC “Desirable Characteristics of Repositories for Managing and Sharing Data Resulting From Federally Funded Research” ([2020-00689](#)).
 - MIT Libraries’ response to the NIH RFC “DRAFT NIH Policy for Data Management and Sharing and Supplemental DRAFT Guidance” ([2019-24529](#)).
 - MIT Libraries and Harvard Library provided [recommendations for Plan S implementation](#).
 - Continue to seek out opportunities to collaborate with peers to advance open research, to advocate for policies and legislation that advance open access to

research, and to advance the Institute's commitment to open research as part of its mission.

- Needs: A continued commitment to actively seek out opportunities to support the principles and actions conducive to the realization of an open research ecosystem.

Recommendation 13: MIT's International Advisory Committee

MIT's International Advisory Committee should include the topic of open access and open science in their deliberations on the Institute's international engagements, including the complex issues and tensions between MIT's commitment to and policies regarding open sharing of research outputs and a desire to maintain intellectual and competitive control.

- Status: Next
- Reasoning: Limited time and attention and shifted faculty and institutional priorities related to management of COVID-19, have delayed activity on this recommendation.
- Accomplishments/Next steps: We plan on contacting the interim chair of this committee to further discuss this recommendation.
- Needs: Information on this committee, its scope of activities, and how to access its deliberations.

Recommendation 14: Form OATF recommendations implementation team

The Provost and Vice President for Research should appoint an implementation team to prioritize, shepherd, and support the above recommendations.

- Status: Now
- Reasoning: There is no time like the present for making MIT better!
- Accomplishments/Next steps: This team has been instantiated as the OATF-IT, has been meeting as indicated above, and has made progress on implementing these recommendations as indicated in this report.
- Needs: The OATF-IT has started the work of implementing the OATF recommendations. In the process, we have found that for many of these recommendations, successful implementation will also require significant faculty buy-in, and in some cases, institutional and/or DLC-level support and resources. Different recommendations will require different types of investment from different areas of senior administration. As the OATF-IT continues its work, we will continue to request support. It is our intention to make these requests as clearly defined as possible.