

# Advice for New Faculty

MIT Physics Department

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Achieving tenure is not possible merely by checking off a series of accomplishments; MIT does not have a list of specific, objective criteria for tenure such as a minimum number of publications in designated journals. There is no single recipe for tenure. There are as many different successful paths to tenure as there are tenured faculty members at MIT.

The most important advice we can give you is to seek advice from multiple sources and then decide what makes sense for you. This document provides advice that may be helpful and some that may not apply well to you. In the end, you must set your own goals high and find your own ways to reach them.

Tenure is based on high research impact. *MIT Policies and Procedures* says,

Persons awarded tenure must be judged by distinguished members of their discipline to be of first rank among scholars and to show promise of continued contribution to scholarship. Tenured members of the Faculty must also demonstrate outstanding teaching and university service; however, teaching and service are not a sufficient basis for awarding tenure.

To achieve tenure you must be widely regarded as one of the very best in your field among recently tenured faculty. Look at the accomplishments of leading researchers in your field up to 5 years more senior than you for benchmarks. We hired you because we believe you can achieve this standard. The rest of this document provides suggestions that may help.

1. **Publish.** The expected number of publications and citation impact varies across subfields and you can set expectations by examining the publication and citation records of recently tenured stars. Even if you are an experimentalist building a challenging lab from the ground up you should have a few new peer-reviewed publications after 4 years that can be sent to the referees of your promotion case. Plan a research trajectory to yield significant new results in your field within 5 years. Have some variety; don't publish all 3-page letters or 30-page tomes.
2. **Strategize.** You are gifted – know your gifts and use them strategically. For example, if you are very good at motivating students, develop a team to tackle larger problems than you could do alone. If you are very good at synthesizing concepts, build a broad collaboration around you to provide you with ideas. Do what you do best.
3. **Become highly visible in your research field.** Establish an independent research identity distinct from your PhD supervisor. Expect to give several invited talks (e.g.

conference talks, seminars and colloquia) per year before your AWOt promotion – but not more than one/month. Practice before giving major talks – every talk is potentially a job talk. Before tenure review, be sure to present your research to most of the leading researchers in your field. Often this is done by giving plenary conference talks at key conferences or going on a seminar or colloquium tour.

4. **Apply early for grants.** Before submission show your proposals to senior faculty and ask for constructive criticism. Accept criticism from them and from anonymous reviewers gracefully and use it to improve your proposals and publications. If your funding agency has peer review panels, join them to see how panelists judge proposals. Be persistent – it may take several revisions and resubmissions of a proposal to succeed. The amount of grant funding received is much less important than your research accomplishments. Learn the MIT financial and OSP procedures and follow them. When writing a proposal, pay attention to the OSP timeline so you get the proposal in on time.
5. **Build a research group.** Students and postdocs are keys to your success in two ways. First, they help you generate those all-important research results. Second, promotion and tenure reviews include an assessment of your success in supervising students and postdocs. Do not take on new students unconditionally or uncritically. Give new research students a project that you think can be done in 3 months and assess them after 3 or 6 months. MIT undergraduates often exceed your expectations and can be a great way to try out ideas too risky for a graduate student. Postdoctoral fellows are a very good way to start building a research group – they (and MIT undergraduates) have the best performance/cost ratio.
6. **Run your group well.** Hold regular group meetings and other events to build team spirit and celebrate successes. Meetings should be scheduled in advance and kept. There should be regular one-on-one meetings with group members and a mechanism for group members to voice concerns to you. Give all group members feedback including, if necessary, your reasons why you feel they would be better off working for someone else.
7. **Train yourself.** You may soon wish you had a MBA – running a research group is similar to running a small business. You may find it helpful to read the leadership books and articles recommended to you (see below). Your first summer, take the MIT summer short course “Leadership Skills for Engineering and Science Faculty” and the HFP Consulting course offered to MIT faculty. After you’ve taught 2-3 semesters, consider attending the APS/AAPT Workshop for New Physics and Astronomy Faculty.
8. **Get mentors.** The Department provides you with a senior faculty mentor; in addition your division head, the department head and the associate department head play mentoring roles. Read the Department’s Mentoring Policy and the MIT Mentoring Booklet, both available at the Policies section of the physics department website. Get a mentor in your field outside of MIT. Meet several times annually with at least one of your mentors for feedback and advice.

9. **Be a mentor.** Conscientiously employ the techniques taught in tip #7 above. Meet regularly with your students and postdocs. Create mentoring networks where the more experienced members help train and mentor the younger ones. Give your students an opportunity to present their work in your office or in your group meeting or internal seminars, and then at conferences. Play to the strengths of your mentees. Discerning and developing a group member's strengths can turn a frustrating or seemingly inadequate performer into a productive scientist. Hold an annual review session during which career goals and progress are discussed. Address the topics listed in the "Postdoctoral Performance Review Recommendations" available at the Policies section of our website. Do this with graduate students as well as postdocs.
10. **Take care of yourself.** MIT and your family both want you happy and productive for decades. Get enough sleep – do not become chronically sleep-deprived. Get regular exercise – besides being good for physical health, it's excellent for stress relief and psychological well-being. Mind your relationships. Loved ones need you and you will be strengthened by them. Balancing work and family life is one of the hardest challenges and we want you to succeed.
11. **Manage your time well.** Don't procrastinate – be on time. Stay focused on what is important. Doing these things while being barraged with all the distractions you face is challenging. Here are some suggestions that may help: Read David Allen's *Getting Things Done* and practice it religiously. Take a course on time management offered by MIT Human Resources. Learn to use effectively a calendar and task manager. Know the difference between "important" and "urgent" (see *The 7 Habits of Highly Effective People* by Stephen R. Covey). Block off time – avoid the "there's plenty of time in the day – every third minute" syndrome. Increase your efficiency by reserving half-days to work alone or with your collaborators free from outside interruption. Avoid constant checking of email.
12. **Work hard but not absurdly hard.** Create a comfortable environment for the evenings or weekends required by your work while ensuring adequate time for activities and relationships outside of work. Don't put your life on hold while waiting for tenure.
13. **Teach well.** Good teaching is highly rewarding and is part of our culture. Find ways to learn from excellent teachers in your department. You may find it helpful to have your first lectures videotaped and reviewed with an expert in pedagogy. After teaching a few semesters, seek advice whether and how to further improve your teaching, or whether you should stop trying to further improve until you get tenure. Lecturing a new subject the first time could take up to half your work time. Make sure the rest is available largely for research. If you can do no research while teaching, this is a danger sign. The second time you teach a class the time required should be half as much as the first. Take a break and recharge after a semester of heavy teaching.
14. **Avoid time-consuming service.** Service, no matter how meritorious, will not get you tenure. Do not accept requests of your time without thinking what you can give up in exchange. Tell your requesters "I need a day or two to think about it" and ask your

mentors for advice before accepting any service request. Look for opportunities to volunteer for service tasks of your own choosing that may advance your scientific career in some way. Examples: Chair a working group in your collaboration, run a seminar or serve on a colloquium committee to invite and hosts speakers of your own choosing, or participate in graduate admissions to help recruit future students who may work with you.

15. **Update your CV annually.** Follow the MIT template available from the School of Science Overview of Promotion Procedures (linked to the Policies section of our website). You can annotate each collaborative publication to say what your role was in collaborations. You can say who conceived the ideas, who built the apparatus, who analyzed the data, etc. Some journals now request this information.

## For additional reading

1. “Managing Oneself,” Peter F. Drucker in *Harvard Business Review*
2. “Overloaded Circuits,” Edward M. Hollowell in *Harvard Business Review*
3. *Getting Things Done*, a book by David Allen
4. *On Becoming a Leader*, a book by Warren Bennis
5. *The 7 Habits of Highly Effective People*, a book by Stephen R. Covey
6. *Chalk Talk*, a book by Donna M. Qualters and Miriam R. Diamond
7. *Career Trends: Running Your Lab*, a booklet available from <http://sciencecareers.sciencemag.org/>
8. Graduate advising and mentoring advice, <http://www.aas.org/cswa/advice.html>
9. Family-work balance, <http://diversity.mit.edu/blog/motherhood-and-academia-yes-we-can>

Items 1-4 are available from the Administrative Officer of Physics.