

## SD Information and Advice on the NIH Tenuring Process

### Common Pitfalls that Tenure-track Investigators (TTIs) Fall Into

Not focusing research

Not doing innovative research

Waiting to publish, or publishing too many unimportant papers

Hiring staff too quickly – not mentoring them appropriately – not learning how to manage them well

Not getting appropriate mentoring themselves or accepting offered advice

Not networking with scientists in research area

Devoting too much time to activities not directly related to your research

### Responses to Specific Questions

Each response is a quote from a Scientific Director

**Question 1 - In your opinion, what is the single most important piece of the package that is sent to the CTC?**

There isn't a "single most important piece". There are several key elements that include: a strong memo from the IC Tenure Committee, positive BSC/site visit reports, strong record of publication in top journals, strong letters by outside evaluators stating that the candidate is a leader in his/her field.

***The "Past, Present, Future" write-up, coupled with the applicant's CV is critical to the package sent to the CTC. This is where the focus, with supporting evidence (the CV), of the Tenure Track Investigator is demonstrated.***

Publications.

***The most important piece is the publication record of the investigator. In particular, is there a critical mass of high-quality, high-impact publications that demonstrate leadership and creativity in developing an important body of work with a unifying theme?***

CV/Bibliography

***The CV and Bibliography of the applicant.***

Independent novel accomplishments recognized by external leaders in the field. The reference letters solicited from outside experts who can speak authoritatively (and generally objectively) about the candidate's stature and impact on their field.

***Letters from the collaborators and non-collaborators.***

A strong set of outside letters from recognized national/international leaders with no significant connection to the candidate

***The single most important piece of the Tenure package is the recommending memo from the Scientific Director, which should thoughtfully convey all the attributes the candidate has displayed while on tenure track and that he/she provides to the mission of the institute. The***

***second most important piece contains the letters from experts in the field who are non-collaborators, demonstrating strong international recognition in the field of the candidate.***

Detailed covering memo.

**Question 2 - As SD, have you made many changes in your program since the previous SD, or mostly kept things on the same path? If there have been changes, how did those changes affect tenure-track investigators?**

Since I became SD, we appointed TT investigators (TTIs) to our IC Advisory Board. We also appointed a TTI ombudsperson to assist tenure track investigators with issues that they did not want to discuss with their lab/branch chiefs or deputy directors. We have also supported one day symposia for TT investigators; these symposia are totally run and organized by a TTI steering committee. Our Office of Scientific Programs has also held half-day orientations 1x/year for new TT investigators who have joined the IC to tell them about the BSC/site visit process, the tenure process, communications and reporting issues, creating webpages and becoming familiar with training activities for their postdocs and students, as well as tech transfer issues.

***We have stopped sharing reference letters with the BSC at the Candidate's final presentation to the BSC, so that the BSC members are not influenced by the opinions of those references. We encourage each Tenure-Track Investigator to establish an individual mentoring committee. This mentoring committee includes members of the IC research faculty, as well as representatives from other NIH ICs and/or outside NIH. The committee meets at regular intervals to assess and advise the Tenure-Track Investigator about progress towards tenure, recommending course corrections as needed along the way. Most Investigators have welcomed this guidance and have benefitted greatly from it.***

Many changes, all of which have been beneficial to the progress of our TT staff based on our debriefings. (1) Tenure track BSC review initiates at 2 years in a mentoring session. (2) Tenure Track Investigators are assigned a scientific and a career mentor. (3) Tenure Track Investigators run the DIR seminar series permitting them to bring in "letter" writers. (4) Tenure Track Investigators are assigned a Staff Scientist. Some are provided an additional contract scientist. (5) Tenure Track budgets are immune to Institute-wide reductions in resources. (6) Tenure Track Investigators can recruit graduate students without using personnel slots (Thus they can add graduate students over their personnel cap). (7) Tenure Track Investigators meet with the SD every 6 months to review progress and any issues in the Institute that might be retarding their progress. This is done in group and individual meetings.

***We have established a Title 42 service group which assists in the recruitment of TTIs, and their processing, and in the conversions of the TTIs to SIs. We have standardized our TTI packages for the CTC and have made them more professional and easier for the reviewers to find key***

**information. We have instituted greater oversight of the TTIs, with respect to enhanced mentoring from assigned mentors, mentoring committees (when appropriate) and meetings with the SD and staff. SD reviews all budgets for the TTIs to assure that resources are appropriate and that they are given at least what is in the commitment letter. In addition, TTIs at least to date have been protected from budget cuts and given special attention in the supplemental process. IMPACT: We have had a very good success rate for our TTIs; some are recommended for accelerated tenure at the BSC reviews prior to their final review.**

Significant changes were made five years ago to expedite the process and make it more stringent. Among the changes were: rapid processing of the case at the IC level, establishment of a standard procedure and timetable, expansion and diversification of the IC Tenure Committee, increase in the number of outside evaluators (letter writers), less reliance on evaluation by former mentors and collaborators.

**I work out their budgets with them individually at annual meetings, the primary function of which is to hear about their science and their needs. I keep their budgets flexible — carrying over funds if they do not fill positions right away (in our institute the PIs get a budget allocation and they can move funds between personnel and other objects). I have increased TTI budgets despite an overall diminishing working budget for the DIR, and I make a significant increase after a favorable mid-term review to build research momentum. I review BSC reports personally with each TTI and we work out a response together. I have mostly discontinued Lab/Branch Chief-only meetings and now have meetings open to all PIs, as well as separate meetings of all clinical staff to discuss clinical issues. I have an open door policy and try to be very responsive to TTI questions, requests and concerns. All TTIs also have two mentors in addition to their Branch/Lab Chief. We also completely revised BSC procedures, and provided to the investigators and the BSC panel descriptors of quality science, mentoring, collaboration and mission relevance that give a clear description of expectations for a successful program.**

Generally, the program has been essentially the same for the past 15 years with the exception of insuring multiple mentors for the TTI and increased oversight of the TT cohort by both the SD and Lab/Branch Chief. At times, we have introduced ad hoc interventions for aiding the candidate. For example, in one case a member of the BSC offered to meet privately at a national meeting with the TT Investigator to further discuss in more detail that individual's program and progress.

**Mostly the same, but more discussion of “mission relevance”. This has not affected the tenuring of any of the last 4 cases. The SD has met more often with each TTI to make sure each is on track and receiving appropriate mentoring. Due to turn-over of lab/branch chiefs this attention has been especially important.**

**Question 3 - How do you think turn-over in institute leadership, and related changes in mission or focus, affect the tenure process for tenure track candidates who were hired by previous leadership?**

This has been a tricky issue in the past; however, currently we evaluate a candidate based on their ability to have made a significant finding in their area of research that sets them apart from others; if their research merits promotion to tenure, they are treated equally.

***Leadership turn-over in our IC has been minimal. When it has occurred, the affected Tenure-Track Investigators were fortunate to find homes in other Branches with compatible research plans and goals. Our IC Investigators are highly collaborative and welcome new colleagues, particularly under such circumstances. To our knowledge, such leadership or mission change has never caused a problem for one of our Tenure-Track Investigators.***

This can be very unsettling and the TTIs need to have constant contact with the current leadership. However, they should feel that the NIH, not an individual, has made a commitment.

***We have seen instances when a Lab Chief left before a Tenure Track Investigator was tenured. This seems to harm the Tenure Track Investigator.***

Through succession planning and resource realignments, we have been able to ensure continuity results following lab or branch chief changes.

***I suspect this can have a very significant effect that is proportional to the strength of the programmatic vision of the new SD and inversely proportional to the general strength of the tenure candidate, but have not had to deal with it yet.***

We have 8 tenure track investigators, most of whom were either hired just before I arrived or were already in situ and selected from national searches. Since our Director was involved closely with these recruits, and since he and I discuss program directions and mission, I don't believe this transition has affected the TTIs significantly. My personal belief is that a TTI appointment is a contract to support the individual until the tenure decision and to seek tenure if the criteria are met.

***In all cases in my experience (I have been involved with two changes in SDs), the progress of the tenure track candidates has not been hampered. It was specifically discussed with the cohort that the process would continue after the change in leadership.***

Such changes are inevitable. Many new factors come into play from new ideas about scientific frontiers, to resources, to interpretations about directions.

**Question 4 - During your time as SD, have you had tenure-track candidates that the institute chose not to send to the CTC? If so, looking back, what could the individual have done differently to avoid that outcome?**

YES. They basically needed to develop a stronger scientific portfolio.

**Yes. PUBLISH - Although each story is unique, common to all was a lack of sufficient ongoing high-quality, high impact publications that demonstrated leadership in a particular field.**

Most failures were due to the transition from a post-doc to an independent investigator, which is a major step that not all are successful with. This really boiled down to generating testable research ideas and developing the necessary new lab skills to accomplish the testing. Better early mentoring could have helped, but there were aspects of their phenotype that possibly would have not resulted in a successful career at the NIH.

**Yes. The candidate would have benefited from taking advice from mentors and lab chief regarding research direction.**

Over the past five years two candidates were not approved for tenure by the IC Tenure Committee: one was rejected and the other deferred for two years. The first candidate should have been more productive, built better relationships with his peers (he had a horrendous response to the request for letters of evaluation) and prepared his presentation to the IC Tenure Committee better. The second candidate should have been more productive, formulated better his hypothesis and goals, and done a better job at his presentation to the IC Tenure Committee.

**During my tenure, both as acting SD and as SD, all members of the TT cohort have been ultimately sent to the CTC. In several cases, the BSC recommended an additional year or two and the CTC recommended an additional year, particularly for increasing the publication record with relevant materials.**

Yes. Should have focused their work. PIs at NIH get too diffuse too quickly.

#### **Question 5 - What could the institute have done differently to avoid that outcome?**

We currently encourage all of our TT investigators to have a mentoring committee or at least a second mentor in addition to their lab chief. Individuals who have taken advantage of this process have certainly been known to improve their research programs and publications. As is the case everywhere, some individuals need more mentoring than others, and some appear not to be receptive to mentoring.

**The institute provided each investigator with clearcut expectations, ample resources, quality mentoring, and training opportunities. However, it would have been helpful in some cases to anticipate problems more rapidly, with regular meetings and more frank annual evaluations, and then intervene sooner to stop the process for persons who are not "on-track."**

We have initiated a dual mentoring system as well as an early mentoring BSC meeting at 2 years to try to give our TTIs the best chance.

**Ensure that all investigators have sufficient resources. The SD should meet on a quarterly or biannual basis with tenure track investigators to make certain they are meeting with mentors, establishing valuable**

***collaborations, and being invited to appropriate career advancing activities (editorial boards, plenary talks, awards etc.). SDs must be more directly involved in documented mentoring for all tenure tracks.***

This is a challenge because being more insistent that the advice be taken would have conflicted with the level of independence that is expected for this position.

***It would help to form mentorship committees for all tenure-track investigators in the IC that meet yearly with the candidate to assess his/her progress in the tenure-track.***

Ensure they all get consistent advice to focus.

### **Question 6 - What are some of the common pitfalls that tenure track investigators are prone to?**

Waiting too long to publish initial findings. The main issue that confronts TTIs is the ability to publish a significant body of work during the time frame provided. This is particularly difficult for mouse geneticists, clinicians and epidemiologists, but can also be a problem for others if they encounter a difficulty along the way. All too often, there is a disconnect between how the PI views their own research relative to how others view it; its value is often over-inflated by the TTI. This is where a mentoring committee can provide the important reality checks and, hopefully, seasoned advice.

***(1) Conducting “me-too” incremental research instead of truly innovative science; (2) Failing to follow-up on promising leads from their own research and move strategically to the next stage of a scientific question; and (3) Having too broad a research portfolio instead of focusing efforts on a particular themes.***

Initial laboratory start-up delays. Scattered research interests and/or inability to focus on a particular research “story line”. Challenges in managing staff.

***1) Not realizing that they are the most important set of hands in the Lab. Can not rely on fellows or even staff early on. 2) Take on too many projects for their one set of hands. 3) Hire people to fill slots rather than wait until quality people can be identified. 4) Highest quality post-docs do NOT select early TTI to work for. They need to be branded by a well known lab.***

Failure to stay focused on the key elements of their research program; Failure to limit the number of projects; Failure to recognize that high risk research and non-traditional research is not rewarded in the tenure process; Failure to recognize that long term projects may not yield enough data to establish a publication rate that is acceptable; Failure to immediately identify poor working conditions and mentorship and demand swift action by institute scientific leadership; Failure to identify and consistently work with outside mentors in evaluating research aims and progress.

***Lack of focus of their research plan; Low productivity or originality; Do not network adequately (and thereby achieve peer recognition), e.g. research collaborations, invitations to national and international meetings,***

**organizing conferences, reviewing manuscripts and joining editorial boards; Not choosing the appropriate mentors**

Big publication gaps. Publishing too many unimportant papers, and not enough highly significant ones. Failing to build cordial relationships with peers. Not making an effort to be invited for talks and seminars.

**Failure to heed the advice of their advisors/mentors, BSC and/or SD would likely be a fatal mistake for a tenure track candidate. Bad hiring decisions, especially hiring bad postdocs. Lack of focus.**

Inability to effectively manage and motivate staff and interact with peers (low social-emotional IQ).

**A common pitfall of a TT candidate is often their lack of appreciation of careful mentoring of their respective fellows. This is perhaps understandable due to the perceived stress of being a TT candidate, but it requires additional, directed oversight in this respect by the Lab/Branch chief and SD.**

1) Spreading themselves too thin and losing focus; 2) not mentoring and motivating their post-docs; 3) not having a clear publication plan by their first BSC review; 4) weak oral presentation for BSC tenure review; (5) losing sight of the big picture (or worse-not having one!); (6) not asking for help with administrative/personnel issues or concerns.

**Lack of focus; fill lab with people too quickly; act as if they are PIs rather than act like Postdocs.**

#### **Question 7 - Any key pieces of advice/words of wisdom?**

It is very important for the TT investigators to present their work at public meetings and become part of a member organization where they will become known to others in their field of research. All that we can do to promote these activities will be helpful to the candidate. We encourage our lab chiefs to promote their tenure track investigators and recommend them for talks at major meetings/symposia.

**Take full advantage of the breadth and depth of expertise and resources across NIH which provide opportunities to (1) develop multidisciplinary infrastructure and sustained cutting-edge collaborative research, and (2) translate scientific findings rapidly and efficiently across specialties in ways that are nearly unique to the intramural research program.**

Get out in the community and get known. Give seminars when you can, visit other labs, network heavily at meetings, and so forth. It is very important to become someone whose name is associated with a face and a voice.

**Be at the bench. Select people who are outstanding, not just filling slots. FOCUS FOCUS FOCUS.**

Clearly define their research goals and objectives, stay focused and publish quality science. Network

**Work on problems of the highest significance. Be original.**

Find one or a few senior scientists as mentors. Identify those who are highly successful at not only the science but at managing people and resources. It's

better, but not necessary, for them to be intramural. Seek their feedback for general issues such as project selection, research vision, hiring decisions, and publication (when, how and where).

***(1) Avoid the temptation to add too many personnel too quickly. 2) It is important to carve out your own research area, but do not avoid collaboration for fear that it is a negative. 3) Do everything you can to publicize your work — go to meetings and present, ask your Lab/Branch Chief to recommend you as a presenter, make connections inside and outside NIH. 4) Seek advice from your senior colleagues; don't feel that you have to prove that you can do it all yourself.***

The most important and obvious aspect of the Institute's responsibility to the TT cohort is "oversight, oversight, oversight", by the various levels of authority. This is not often easy, as "oversight" can be perceived by the TTI as being onerous or micro-managing. Many times the decisions and suggestions made by the leadership are not completely understood by the TTI; thus requiring a time-consuming, but necessary, communication exercise. Experience gained by the tenured members' attitudes toward the TTI, as well as a deep understanding of their situation, is necessary for a smooth six/seven year experience for the TTI.

***Mentoring is critically important. Choose your fellows carefully and seek help if relations with them are not going well. Design and present your experiments within the framework of a “big picture” - this is critical for success with the BSC and CTC.***

All work relevant for tenure should be done directly by the TTI so they stay at the bench and focus like a postdoc.

**Question 11 - This is not necessarily related to tenure per se, but looking back over your entire career, is there anything or any decision that you might do differently knowing what you know now?**

At times it is important to be careful which postdocs one accepts into the lab. If you ever have to ask yourself, "Is this person better than nothing?", the answer should be no, not yes! Hiring a substandard fellow you are unenthusiastic about will in the end usually lead to more effort and less productivity.

***In my early years, I would have more quickly abandoned the "publish or perish" notion that the quantity of publications is of paramount importance and developed a more distinctive and integrative portfolio of research.***

It would have helped to realize the reality earlier that no matter what you do, you can't make everyone happy all of the time...

***I would have been more assertive early in the tenure-track.***

I might have switched to a more "main stream" model organism, but a big switch is difficult in the extramural world; on the other hand, as a result of not switching, we have a niche. I would have been more political and outgoing in promoting our work.