

2020

Yale School of Medicine

Summer to Advance Research Training

START@Yale

A Guide for Students and Mentors



Contents

An overview of START@Yale	1
Key dates and deadlines	2
Important General Information	2
Overarching goals of the program	4
Past Mentor Specialties	5
Past Research Topics.....	6
START@Yale Activities	8
An Introduction to the Research Setting Experience	Error! Bookmark not defined.
Purpose of the Initial Student/Mentor Video Conference	Error! Bookmark not defined.
Guidelines for Students	9
Selecting a Mentor.....	9
Suggestions.....	10
Guidelines for Mentors	12
Suggestions.....	12
Tips on Student/Mentor Interaction	15
Potential Pitfalls of the Student/Mentor Relationship	16

START@Yale

A guide for students and mentors

An overview of START@Yale

START@Yale is an innovative program designed to provide incoming MD and MD/PhD students with a mentored research experience and associated educational and social activities during the summer before the first year of medical school.

The **START@Yale** program begins on June 15, 2020 and concludes on August 5, 2020. In the program, MD and MD/PhD students are paired with highly qualified faculty mentors for an early research experience. There is no tuition charge for the program, and all **START@Yale** students are supported with a stipend for the 8-week period.

In addition to research, START students participate in a weekly journal club, and the 8-week START agenda also includes a number of enjoyable social activities!

The 2020 **START@Yale** application and detailed program information are available online at:

<http://medicine.yale.edu/education/research/start/>

Key dates and deadlines

March 27-29: Second Look weekend: An opportunity for accepted MD and MD/PhD students to learn more about Yale and meet future classmates, current students, and faculty. Visits with prospective START mentors may also be arranged. Please let us know in advance with whom you would like to meet.

May 11: Deadline to submit online **START@Yale** application, indicating preferences for research area and mentors.

May 18: Notification to students and mentors of assigned matches.

May 26: Deadline for accepted students to commit to participate in **START@Yale**.

June 13-14: Move-in weekend for START students.

June 14: Welcome barbecue for START students.

June 15: **START@Yale** program begins. Participants officially enroll on this date as Yale School of Medicine students.

August 5: Program ends with closing symposium

Important General Information

Eligibility: All accepted MD and MD/PhD students are eligible for this optional program. In past years, all

applicants have been accepted. In the unlikely event applications outnumber available slots, acceptance will be determined via a lottery system. If the session is full, a waiting list will be maintained until the program begins.

START Program Schedule: June 15 through August 5, 2020.

Stipend: NIH-base level stipend will begin with enrollment on June 15.

Housing: Space for the summer is reserved in Harkness Dormitory for START students who commit to live in Harkness for the full 2020-2021 academic year. Alternatively, there are outstanding off-campus housing options, many of which are listed in Yale's off-campus housing website:

<http://your.yale.edu/community/campus-living>. Please feel free to contact MD students; Divya Ramakrishnan and Josiah Sherman and MD/PhD; student Samuel Liburd for advice about neighborhoods and housing options.

Mentors: Students will be matched to research mentors based on preferences indicated in their START applications.

Application: START@Yale applications must be submitted by the Monday, May 11 deadline.

Contact: If you have questions, please contact **START@Yale** Program Directors:

- Dr. Laura Ment, laura.ment@yale.edu
- Dr. Peter Aronson, peter.aronson@yale.edu

and/or START@Yale Student Mentors

- Divya Ramakrishnan, divya.ramakrishnan@yale.edu
- Samuel Liburd, samuel.liburd@yale.edu
- Josiah Sherman, josiah.sherman@yale.edu

Overarching goals of the program

1. Provide a research experience with a faculty member in each student's chosen field of interest.
2. Educate students about the research activities in diverse disciplines through small group tutorial sessions with the mentoring faculty.
3. Provide the opportunity for students to present a summary of their work at the end of the program.
4. Enable students to get to know their classmates and Yale faculty in an informal environment.

5. Provide the opportunity to experience cultural, entertainment, and recreational activities in the New Haven area before the start of classes.

Note: For MD/PhD students, the START summer research counts as laboratory rotation.

Past Mentor Specialties

- Anesthesiology
- Child Study Center
- Dermatology
- Genetics
- Immunobiology
- Internal Medicine
- Molecular Biophysics & Biochemistry
- Neurobiology
- Neurology
- Obstetrics & Gynecology
- Oncology
- Pathology
- Pediatrics
- Psychiatry
- Public Health & Infectious Diseases
- Surgery

Past Research Topics

- Thalamic Stimulation to Prevent Impaired Consciousness in Epilepsy
- Analysis of the anti-cancer effect of ERK, CCL20, and IL8 inhibition for osteolytic breast cancer
- Temporally precise characterization of principle neuron activity in the basolateral amygdala during appetitive learning
- Sex Based Predictors of Outcomes in ACS Patients: A Report from the NCDR[®] ACTION REGISTRY[®] and CathPCI Registry[®]
- Generating NEK9 Mutant Cell Lines with the CRISPR/CAS9 System
- Separating Transport and Signaling Functions in PiT1 to Understand Mechanism of Phosphate Sensing
- Liver Disease Caused by Mutations in a Small GTPase
- Multidisciplinary Management of Infective Endocarditis Complicated by Ischemic Stroke
- Quantitative determination of estrogen receptor (ER) dynamic range in low-ER positive breast carcinoma.

- Differences in Physician Nonverbal Communication with Patients of Varying Sociodemographic Groups and its Effect on Patient Adherence
- Roles of Familial Parkinson's Disease Gene Dj-1: Immunofluorescence Imaging of TH+ Nigrostriatal Neurons in a DJ-1 -/- Mouse Model; ATP Synthase Beta-subunit Transport Rage in a DJ-1 Over-expressed Cell Line
- A Review of Developmental Toxicity and Somatic Mosaicism
- Role of TRIM71 in Human Congenital Hydrocephalus
- Directed Evolution of environmentally biased cytokines

Welcome, enrollment session, taking place June 15, 2020, 8:30 a.m. until 2:00 p.m. Students: attend from the morning informational and enrollment sessions through lunch, then are escorted to the mentors' lab for the remainder of the afternoon. Mentors: are invited to attend the luncheon, then escort their students to labs.

Journal Clubs, beginning on the second week of the program for 6 consecutive weeks, on Wednesday evenings for approximately two hours, including dinner. Journal Club sessions will be led by each student about a paper from his or her mentor's research program, also attended by the mentor. In addition, the mentor will discuss his or her career development leading to the paper presented. All participating students will thereby have the opportunity to meet and learn about the research activities of all faculty mentors.

Closing symposium, taking place on the last day of the program, August 5, 2020. A detailed schedule is arranged. Students present the culmination of their summer research and mentors, as well as fellow lab members, are invited to attend. The symposium generally includes lunch and a reception following the symposium.



Guidelines for Students

Selecting a mentor

A list of highly qualified faculty mentors appears on the **START@Yale** website at:

<http://medicine.yale.edu/education/research/start/info/mentors.aspx>

The faculty members listed there have been approved by the **START@Yale** Steering Committee and have an understanding of the goals of the START program. One of the major goals of START being to provide participants the opportunity to participate in research during the summer before the first year of medical school.

We encourage **START@Yale** participants to perform research with physician-scientist mentors who are role models for successful career development that involved both research and clinical training.

We also encourage START expected participants to contact Program Directors and/or 2020 Student Mentors regarding questions about potential mentors while they are preparing the application to the **START@Yale** program.

Suggestions

Ask for advice and welcome constructive criticism.

Oftentimes people are hesitant to offer advice when they do not know you very well. Be as specific as possible when asking for advice. For example, instead of asking what goes on at national scientific meetings, it would be more beneficial to know whether you should dress differently when you are presenting your poster or receiving an award. A good mentor will offer both constructive criticism and suggestions for your work, so be open to both.

Be considerate of your mentor's time. Mentors are by definition more established in their careers. This means that they have more demands on their time than they have time to deal with them. However, they have chosen to participate in this program and to be your mentor. You can expect quality time from them, but, in return, you need to be considerate of their time.

Return phone calls and emails promptly and be on time. Be sure to ask how much time your mentor has to spend with you and abide by that request. Let your mentor suggest taking extra time if needed. You might even discuss setting aside a particular time each week to talk.



Listen to what your mentor has to say. Mentors, having been there, know what you'll be facing in your future career. Although sometimes their advice may seem less relevant to you at the moment, often it's that very information that becomes critical at a future date. Take all the advice your mentor has to offer on all aspects of your career.

Seriously consider the advice given to you by your mentor, even if your immediate reaction is not positive. A mentor seldom offers advice or criticism lightly. They've been in your shoes. It's very reasonable to ask for time to consider their advice and then get back to them with your response. While you certainly don't have to follow their advice, remember that they do have experience and skills that you haven't mastered yet.

Show appreciation for the time and assistance given to you by your mentor. Mentors need encouragement too, and constructive feedback will help your mentor guide you in the most effective way. Let them know how their advice worked in your situation.

Make only positive or neutral comments about your mentor to others. If, after a period of time, you don't believe that either you or your mentor is able to participate in an effective mentoring relationship, then



don't be averse to discussing this with your mentor and possibly ending the relationship. If the relationship does end, if at all possible, try to end it on professional terms. It is no reflection on either of you if a particular pair isn't suitable.

Keep the door open with your mentor. You never know when you may need his or her advice or assistance at some point in the future. And later, when the formal mentoring relationship is no longer needed (for example, you have obtained tenure or other official recognition of career advancement), consider staying in touch to provide "progress" reports. You never know when a situation will come up that you can use some good advice.

Guidelines for Mentors

Suggestions

Achieving the goal of the program. The goal of the program is ideally achieved in the setting of your mentee's increasing participation in the lab. Thus, your mentee should be encouraged to join the appropriate conversations to build on his/her experience in the lab. Other ways for you to interact with your mentee include email, phone, letters, and fax. Encourage your mentee to attend, if possible, specialty meetings in his/her discipline and other events that would help advance



his/her career, such as workshops on research funding and practice strategies.

Take the initiative in the relationship. Invite your mentee to talk, suggest topics to discuss, and ask if you can offer advice. Ask about and encourage accomplishments and ask if you can make a suggestion or offer criticism. Your perspective on all aspects of a career in medicine is very valuable.

Respect your mentee's time as much as you respect your own. Be explicit about your own needs and limits, specifying times you wish not to be disturbed or ones that are particularly good for communication. On the other hand, your mentee may also have teaching duties and times during particular experiments when he/she is not available. The use of email greatly alleviates having to set a specific time to talk.

Be explicit with your mentee that you are only offering suggestions and that they should be weighed along with advice received from other mentors. You should be encouraging your mentee to seek out advice from his/her advisor or on-site mentor as well as others, depending on the topic or issue being discussed.

Make only positive or neutral comments about your mentee to others. Your mentee must trust that anything said to you will be held in the strictest of confidence



unless instructed otherwise. One never knows where a mentee could end up (e.g., grant review board, journal reviewer, etc.).

If your mentee is interested, consider discussing how you have been able to balance work with personal life demands. Junior scientists and practitioners often find this a difficult issue and set unrealistic expectations for themselves and their personal lives. They appreciate hearing a senior colleague's thoughts and experiences.

It is important not to confuse positive communication with a need for unwarranted praise or flattery. A

mentor's job is not always to praise the work of the junior colleague. In fact, mentors who do not offer critical but constructive feedback may actually provide a disservice to the person they are trying to help. Too often senior faculty do not offer criticism for fear of offending. While accepting constructive criticism is an important lesson to be learned by all junior faculty, giving it is a lesson that senior faculty must master to become successful mentors.

When criticism is offered, it should be followed by constructive advice for improvement. If possible, specific examples should be offered. Try to avoid offering advice in a way that would intimidate your young colleague from best availing his/herself of your expertise. It's not a



bad idea to allow the mentee to think about your comments for some period of time and then come back together to discuss them.

Based on these guidelines your mentee should reasonably expect that you be in regular contact, provide career planning advice, keep confidences between the two of you, follow through on commitments, and be caring while giving honest feedback.

Tips on Student/Mentor Interaction

When setting a date for the first meeting or contact, both members of the newly matched pair should arrange to exchange copies of their curriculum vita beforehand, so each will have them on hand for the first discussion. The mentee's CV is helpful for you to begin a constructive review of the junior colleague's career at that point and to suggest some goals for the immediate future. Your CV provides a base with which you can point out key steps in your career that were particularly valuable along the career path, such as research awards, types of grant funding, quality of publications, service and committee appointments, etc.

Second, the mentor should ask the junior colleague to share his/her goals for the upcoming year as well as more long-term goals, as a starting point for discussion.



The exact nature of subsequent meetings, including their topic and duration, will vary from pair to pair. For the majority of people, phone or email will be the most effective, regardless of where the two people live. In most circumstances, email probably will be the most effective way for mentor and mentee to stay in touch with a minimum of formality and time spent. However, it is important to also set aside a specific time or times to interact during appropriate scientific meetings, both because it may be a rare opportunity to interact in person and because this provides the junior colleague an opportunity to network with other scientists and clinicians through your tutelage. Poster sessions and events such as receptions or dinners are good ways for you to introduce the junior colleague to other scientists and clinicians with whom the mentee may not normally have the opportunity to meet and interact with. However, it is important for the mentee to understand that you have other demands on your time, including mentoring your own students and postdoctoral fellows, during the meeting. This is why specifying ahead of time a particular time and place for at least one face-to-face meeting is important.

Potential Pitfalls of the Student/Mentor Relationship

There are at least three areas that need particular attention in any mentoring relationship.



Limited time. Studies have found that finding the time and energy for mentoring pairs to get together is a great obstacle. Take advantage of email, fax, telephone, etc., as ways of staying in touch. Email especially allows for relatively short but more frequent contact between the participants.

Lack of knowledge/skills. After you have accepted a role as a mentor, you may discover that there is not really the common ground between the two of you that was expected or that the junior colleague wants assistance in an area in which you do not feel particularly competent to advise. In this situation, you can feel free to either contact someone else or assist your mentee in locating others whose expertise may be more helpful for his/her specific need. Encourage your mentee to be open to taking the initiative to find another person to get a different point-of-view in a particular area.

Over-dependence. Over-dependence can go in either direction in a mentoring relationship. However, it is not wise for a junior person to become over-dependent on a mentor. It is helpful for you to encourage your junior colleagues to have other mentors and to eventually anticipate the end of the formal mentoring relationship. It should be everyone's goal to eventually become full-fledged colleagues, although it's always nice for the



former mentee to have someone to go to for advice at any time in the future.

It is important that both mentees and mentors always consider whether a mentoring match may have served its useful purpose. It is better to part company on amicable terms than to struggle with a relationship without a firm foundation.



Many thanks to all of our
START@Yale mentors for
providing START@Yale
students with excellent
research experiences.

