What are the goals of our MD/PhD Program?

Our goal is to admit students of outstanding potential and provide the training and experiences they will need to become accomplished and independent physician scientists. We want them to graduate from our program ready and willing to complete their training and make important contributions to their chosen fields. Our goal is not to produce private practitioners with some research training; our goal is to produce motivated and enthusiastic physician scientists who will elect a life-long career in biomedical research, translating fundamental discoveries into improved health care delivery and serving as role models for the next generation of investigators. To accomplish this, we’ve developed a strongly collaborative and well-integrated partnership that incorporates the medical education and research programs of the Jefferson Medical College and the biomedical PhD training programs of the Jefferson Graduate School of Biomedical Sciences.

How many MD/PhD students are there and how long has the program been around?

While Jefferson awarded its first MD/PhD degree in 1966, the current program began in 2003. There are currently 39 students enrolled; our entering class is typically 5.

How long does it take most MD/PhD students to complete both degrees?

Our students typically take 8 years to complete both degrees. The first two years emphasize the basic science and clinical skills necessary for the MD but include research rotations, seminars and journal club. Years 3 through 6 are devoted to thesis research but continuity in clinical skills is provided by monthly participation in ‘Clinical Skills for Physician Scientists’. After completing their thesis research, students return for the final two years of clinical studies. Some students take more than 8 years but our goal is 8 years.

How do MD/PhD students choose labs?

MD/PhD students use many of the same resources as PhD degree students. We encourage them to attend staff seminars and meet with PhD Program Directors as well as individual faculty members. We hold advising sessions for students in the first two years to discuss research interests, available labs and choice of PhD Program. We discuss issues involved in choosing a lab and encourage our students to choose carefully. We invite our students to consider mentors at all phases of their careers; and discuss the pros and cons of choosing more junior vs. more senior faculty and big labs vs small labs. We encourage them to find out as much as they can about the mentoring style of the PI by talking to other students and other lab members. Students must have the approval of the MD/PhD Program for their choice of both lab rotations and thesis mentors. In keeping with JGSBS policy on the number of PhD and MD/PhD students in a laboratory, the MD/PhD Program has a policy that no mentor can have more than 2 MD/PhD students at one time, and no more than 1 MD/PhD student from the any one recruitment year.
Should we encourage them to get out of the lab as quickly as possible?

No, we encourage our students to be efficient and not to waste time. We let them know that we expect them to do a first class thesis and to take the time necessary to do that. We expect them to meet the basic goals of all PhD training programs, which includes learning: to ask interesting and significant questions; how to develop these questions into a set of experiments; how to evaluate the results of those experiments; how to present results in written and oral form; the skills needed to develop a career as a successful investigator, including grantsmanship and publications. We do ask that you help your student to identify projects with a high likelihood of success, built on preliminary observations and solid hypotheses, using established research tools.

Does the MD/PhD Program have a policy on research committee meetings?

Yes, MD/PhD students are expected to follow the JGSBS general requirements of two research committee meetings per academic year. Please see PhD Thesis Manual at JGSBS Faculty Resources. In addition, one of the MD/PhD Program Directors or another member of the MD/PhD Steering Committee will serve as an ‘ex-officio’ member of each MD/PhD student’s research committee and, as such, should be notified in advance of each committee meeting.

Do MD/PHD students have Program Requirements above and beyond those of the PhD Program to which they belong?

Yes, there are additional commitments required of our students during their research years. They have weekly meetings of “Current Topics in Translational Biomedical Research”; monthly participation in Clinical Skills for Physician Scientists; periodic Physician-Scientist Dinners; and annual MD/PhD Retreat (held on a Saturday). They must also complete the course GC 630-Fundamentals of Clinical Trials and, optionally, rotations at the Cancer Clinical Research Review Committee and the Annals of Internal Medicine. You can find more information about the MD/PhD curriculum at the Program’s website, most conveniently at Required Program Specific Classes and Activities.

Does the MD/PhD Program have specific expectations for the mentors of its students?

Yes, we want to develop a community of participation around our students. We want you to encourage them to be active participants in the above programmatic elements. We want you allow time in the trainee’s schedule to enable that participation. We expect you to participate in the above program components by helping your student prepare presentations; attending all presentations given by your student, including the MD/PhD Retreat; and attending MD/PhD recruitment activities. The calendar on the MD/PhD home page contains dates and locations for all Program events. Plus invitations to mentors and Program Directors are usually emailed well in advance of the date.

Our students have career aspirations, with pathways and trajectories, which are different than traditional MD or PhD students. We want you to work with them to understand their career goals, available opportunities to pursue them regionally and nationally, and contribute to directing their laboratory-based and professional interactions to help enable their success. All of our students are
required to apply for individual fellowships and all MD/PhD mentors are expected to support this activity to a successful outcome. Our MD/PhD students are expected to publish primary research work in impactful journals, requiring the commitment of their mentors to this shared goal. Our students will pursue careers which are demanding and require well-developed skills in time management to integrate clinical and research commitments, and professional and personal activities, that produce success and satisfaction. We need you to provide active role modeling for these skills so that our students can face the challenges of successful career balance and time management.

We expect you to become familiar with the requirements, not only of the MD/PhD Program, but of the particular PhD Program in which your student is pursuing thesis research and JGSBS. To this end we recommend the MD/PhD Handbook and the PhD Thesis Manual, both available on line.

What are IDPs?

Individual Development Plans (IDPs) provide a planning process that identifies both professional development needs and career objectives. Furthermore, IDPs serve as a communication tool between individuals and their mentors. While IDPs have been incorporated into performance review processes in many organizations, they have been used much less frequently in the mentoring/advising of MD/PhD trainees. An IDP can be considered one component of a broader mentoring program designed to help MD/PhD students think about their professional development needs as they proceed through their didactic, research and clinical training experiences.

An effective Individual Development Plan helps individuals identify both the tools to achieve long-term career goals as well as means for improving short-term performance. Recent data have shown that individuals that use an IDP are more successful than their counterparts that did not use it.

How are mentors expected to contribute to the trainee’s IDP?

Be aware of career opportunities and discuss them with your MD/PhD trainee. This needs to be a private, scheduled meeting distinct from regular research-specific meetings. There should be adequate time set aside for an open and honest discussion. Review your trainee’s IDP and help to revise it. Provide honest feedback - both positive and negative - to help MD/PhD trainee set realistic goals. Agree on a development plan that will allow MD/PhD trainees to be productive in the classroom, laboratory and clinic and adequately prepare them for their chosen career. Finally, establish regular review of progress. The advisor/mentor should meet at regular intervals (at least yearly) with the MD/PhD trainee to assess progress, expectations and changing goals. On at least an annual basis, the advisor/mentor should conduct a performance review designed to analyze what has been accomplished and what needs to be done. A written review is most helpful in objectively documenting accomplishments.

What is Current Topics in Translational Biomedical Research?

Current Topics in Translational Biomedical Research is a 1 credit graduate course (GC 710, 712, 714) that students take each semester they are doing their thesis research. There are 4 aspects to this course: a student research seminar given the first Monday of the month at noon; Case Studies in Molecular
Medicine presented by our students who are back in their clinical years and held on the 2nd Wednesday of the month at 5pm; a research ethics conference that is only required during the 3rd year of thesis research; and a translational research journal club that is held on the 4th Wednesday of the month at 5pm.

**What is Clinical Skills for Physician Scientists?**

This is a graduate level course (GC 725, 1 credit) that was developed in order to allow students in their research years to maintain a connection with their clinical skills and knowledge base. It is required of our students each semester of their research years. There are two phases. Students in the first year of research assist with teaching of first year JMC courses, usually as lab assistants. Students in 2nd year of research and beyond join internal medicine morning rounds with Dr. Majdan, volunteer at JeffHOPE clinics, or arrange clinical preceptorships in areas of their own interests. In all phases the time commitment is about one half-day per month.

**What are the issues that affect the timing of our students return to medical school?**

A timing issue unique to MD/PhD students is that they can only graduate from JMC in May, if they plan to do a residency. If an MD/PhD clinic returns to clinics too late, it can mean an entire additional year in the Program. For this reason our students need to plan especially carefully. This is not a reason to rush a thesis project to a premature conclusion; it is something that needs to be taken into account. Typically a student should defend in the spring prior to returning to the third year of medical school. For example, a student who graduated with their MD/PhD degree in May 2013 would ideally have defended in late spring of 2011.

**Are Jefferson MD/PhD students expected to defend their thesis before returning to medical school?**

Yes. Completing research and writing for a PhD thesis is a tough job and difficult to do while attending medical school. Only extraordinary circumstances would make us allow students to return to JMC prior to defending the thesis. Approval has to be granted on a case by case basis by the MD/PhD Steering Committee.

**How are MD/PhD students funded?**

All students who are admitted directly to the MD/PhD Program are granted full funding – tuition, fees and stipend-for the entire time that they are in the program. This funding comes from a variety of sources including JMC, private foundations, individual fellowships, and research grants. JGSBS will fund an MD/PhD student until December 31 of the 1st year in which a student joins the mentor’s lab; after that the mentor is responsible for financial support of the student’s stipend until the student returns to JMC. All of our students are required to apply for individual fellowships.

**How much more training do MD/PhD students do after they leave Jefferson?**

Our graduates typically have done residencies and clinical fellowships. Between clinical training after medical school and further research training, most graduates will spend another 6 years.