UNC MD-PhD Program

The MD-PhD Program at UNC-Chapel Hill is committed to the training of outstanding physicians and scientists who are well-prepared for a successful career making meaningful discoveries that impact the health of our nation and the world. We expect the training our students receive to be both rigorous and demanding, and to provide a solid foundation on which for them to build their future career as a Clinician Scientist. It is our expectation that after residency, specialty and/or postdoctoral training, our students will be well prepared to perform basic, translational, and/or clinical research and to do so at the highest and most competitive levels. Furthermore, we are confident that during the PhD portion of their work, our students will not only have a complete PhD experience comparable to that of any other graduate student, but that they will also focus on the clinical and population health implications of their biomedical research.

The MD-PhD curriculum at UNC-Chapel Hill incorporates the SOM TEC Curriculum into our MSTP-style timeline: i.e., two years of medical school (MS-1 and MS-2), followed by entry into and completion of a PhD in an appropriate degree-granting program, and then the last two years of medical school. All MD-PhD students complete a minimum of two research rotations (typically 4-6 weeks) during their summer terms. In addition, all first year MD-PhD students are required to participate in and meet all requirements for successful completion of the BBSP First Year Groups. After completing MS-1 and MS-2, followed by taking and passing Step 1 of the USMLE, MD-PhD students take a leave of absence from the medical school and join their PhD degree-granting program. MD-PhD students matriculate into their PhD degree-granting program on August 1st of the third year in the program. **Please note:** The MD-PhD Program does not fund its students during the PhD-phase of their training. Rather, their funding as a PhD student is the responsibility of the PI and/or graduate department.

Program Requirements During PhD Phase

In an effort to foster integration between basic science and clinical medicine during the research portion of their combined-degree training, MD-PhD students are *required* to participate in the following programmatic activities or courses as outlined below:

1. Longitudinal Clinical Clerkship – Students are required to complete this course in their second (or second and third) year of PhD training. This course has been specifically designed to provide a continuous exposure to clinical medicine in an area or field that is as close and relevant as possible to the student's dissertation research. In this individually designed experience, students spend 160 hours (the equivalent of ½ day per week for 40 weeks). At the discretion of the student and their thesis advisor, it may be preferable to complete the clerkship over two years. The goal is to give students additional clinical exposure, clinical insights relevant to their studies, and to prepare them for the life of a physician-scientist without compromising time in the lab. The selection of the clinical mentor involves the collective effort of the student, the thesis mentor, and the MD-PhD Program Leadership Team. In many cases, these clinical mentors also become members of the thesis committee, and are often physician-scientists themselves. Each student receives 6 medical school credit hours for the time that they spend in the course, which is applied to their elective clerkships upon return to medical school.

2. Individualized Development Plan (IDP) – Each student and their PhD advisor is asked to meet with the MD-PhD Program Leadership Team annually in the fall semester. Prior to the meeting, students are asked to submit an updated IDP, the purpose of which is to provide guidance for student self-evaluation as well as for evaluation by both the PhD advisor and the MD-PhD Program Leadership Team.

3. Monday Night Seminar Series – This bi-monthly seminar series is held each academic year, August through May. These evening seminars are designed to provide our students with an opportunity to interact with a variety of leaders in their respective fields. Speakers are invited from both on- and off-

campus and are most often scientists; however, we have also been fortunate to have policy makers (e.g., State Health Director, US Senator, US Congressman), and visiting scholars from NIH, etc.

4. Annual Retreat – Each student is required to attend our Program Retreat which is held annually on the either the last weekend in July, or first weekend in August. The retreat begins on a Friday evening and concludes on Sunday afternoon.

Furthermore, MD-PhD students *are strongly encouraged* to participate in the following activities:

5. F30 Program – The F30 mechanism is an NIH-funded individual fellowship award designed specifically for MD-PhD students. Successful applicants receive funding towards their stipend, tuition, health insurance and educational expenses. This mechanism represents not only financial support for the student, but also an invaluable tool to teach them the essential skill of grant writing. We encourage all of our students to apply for independent funding since the grant application process insures that they critically appraise their research aims. We believe that the future success of these students as academic physician-scientists is dependent on their ability to write successful grant applications.

   NIH guidelines specific to F30 awards:
   (1) Students must apply for the F30 *no more than 48 months* after matriculation in the MD-PhD program. Therefore, students must submit their initial application on or before the April 8th deadline of their PhD2 year (4th year overall in the MD-PhD Program).
   (2) Applicants may receive up to 6 years of NRSA support including any combination of support from institutional training grants (e.g. T32) and individual fellowships (e.g. F30).
   (3) The F30 funds both research and clinical training. However, at least 50% of the total F30 award period must be devoted to research training. We expect that MD-PhD students will submit F30 applications which split the PhD and MD time 50/50.

   Please note: Typically, MD-PhD students are able to write F30 grants such that 2 years of PhD and 2 years of MD are requested in the initial submission. This means that the student has been appointed to a T32 for 2 years or less. The majority of MD-PhD students will enter your lab having been on our MSTP T32 for 1 year. If your MD-PhD student is put on another T32 for more than 1 year while they are in your lab, this will leave them eligible for only 3 years of F30 funding (e.g. 6 years NRSA – 3 years T32). This is not optimal as we want to maximize the amount of F30 funding that the student is eligible for in BOTH graduate school and medical school. Of course, we understand that our MD-PhD students are often excellent candidates for T32 funding and we are not asking you to deny external funding. We also understand that receiving F30 funding is never a guarantee. However, we would appreciate your consideration of these logistics as you determine funding for MD-PhD students throughout their PhD training.

6. Clinical Relevance of Doctoral Dissertation – We expect the majority of our students to have at least one physician-scientist on their thesis committee. The presence of a physician-scientist on the committee helps to ensure the student's research goals and questions have a foundation in advancing medical care. To help them think in a translational way, we encourage students to describe briefly the clinical relevance of their research in their dissertation. We do not envision that this will change the content of most dissertations. Rather, we envision that this expectation will change the way our students think about their research projects – ensuring that the route to clinical relevance will be at the forefront of their thinking. This component of the thesis will include a description of the clinical disease(s) or syndromes of relevance, the science underlying their proposed work, and the future research that must be completed before their work will have an impact on the care of patients or prevention of disease.

7. Clinical Case Conference – These monthly lunch-time meetings provide our students with an opportunity to hear about a clinical case, develop a differential diagnosis, and then evaluate the case in the context of recent clinical research as well as basic research literature relevant to the clinical scenario.

Upon completion of their PhD research, each MD-PhD student must write and defend his/her thesis before returning to medical school. The MD-PhD Program has a clear written policy regarding this issue. Any exceptions to this policy would require justification, and would be made on an individual basis following an appeal process involving the MD-PhD Leadership Team and representatives of our Executive Committee.

There is considerable flexibility granted to returning MD-PhDs by the School of Medicine regarding the start date of clinical rotations in Year 3 of medical school. This enhances the students' ability to comply with the above policy; students now have the opportunity to return at 2 major time points: March or July, of their returning academic year. This allows for resolution of unanticipated issues and delays which may be associated with manuscript completion/resubmission and dissertation completion. In addition, there is a 3rd time point: October, which could be considered with approval from the MD/PhD Program Leadership Team and the Dean for Student Affairs.

THANK YOU

We greatly appreciate your time and effort in support of this MD-PhD student and the MD-PhD Program overall. We are hopeful that this will be the beginning of a productive partnership. If you have questions about any of the information above please do not hesitate to contact us. The MD-PhD Program office phone number is (919) 843-6507 or you can reach us via email at any time.

Mohanish Deshmukh, PhD
Co-Director
mohanish@med.unc.edu

Toni Darville, MD
Co-Director
lad@email.unc.edu

Alison Regan
Assistant Director
aregan@med.unc.edu