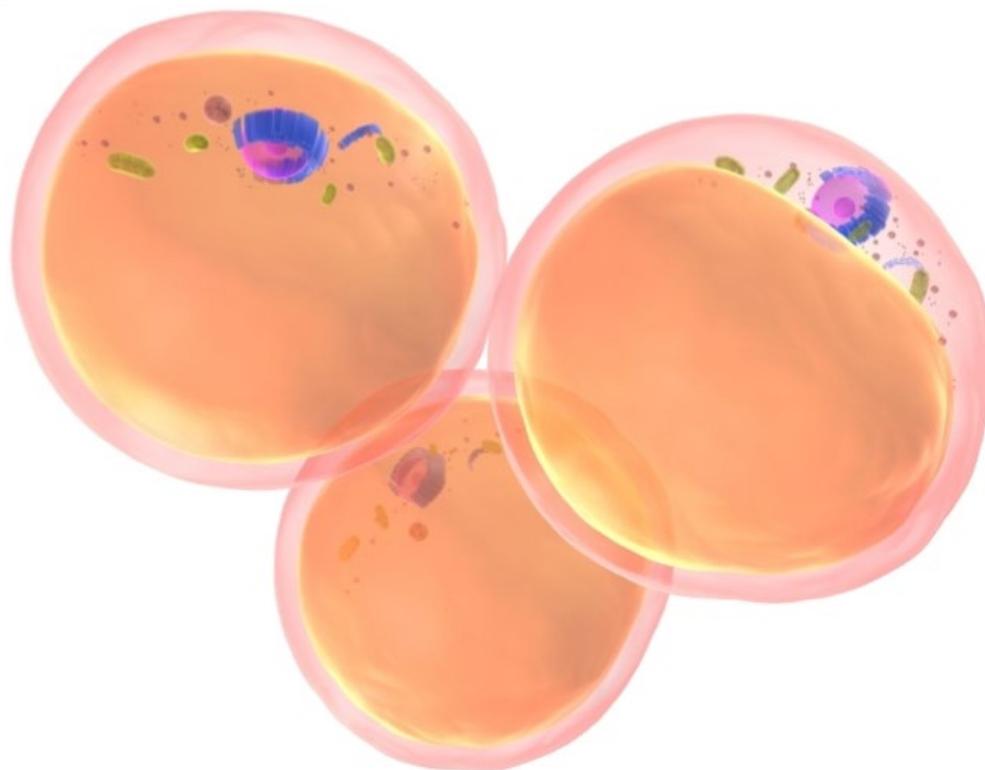
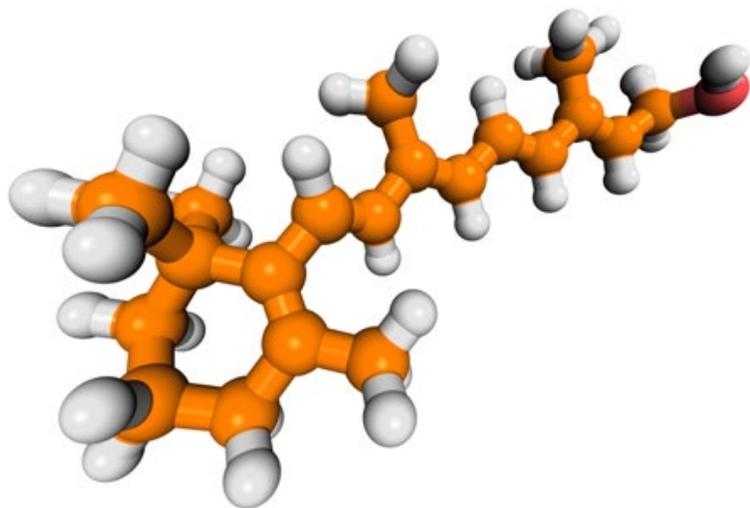


Nutritional and Metabolic Biology PhD Program Handbook



Overview of the Nutritional and Metabolic Biology Program

The Nutritional and Metabolic Biology (NMB) training program prepares PhD students in nutritional and metabolic sciences to work at the frontiers of biomedical research exploring the role of diet in maintaining optimal human health. The objective of the training program is to prepare individuals to conduct original basic science research in nutrition, to teach in medical schools and universities, and to hold positions of leadership in community and international nutrition.

Housed within the Institute of Human Nutrition (IHN) at Columbia University Medical Center (CUMC), this multi-disciplinary and multi-departmental training program is highly structured and comprises both coursework and basic research. The NMB program is one of the few pre-doctoral training programs in nutrition in the United States that is located within a medical school and is unique among the other PhD programs at CUMC with an equal number of MD's and PhD's as faculty mentors (including eight MD/PhD's). The location of the NMB training program in a medical school offers trainees a wide array of research training opportunities in laboratories headed by established senior scientists as well as NIH-funded younger independent investigators.



First-year NMB students with NMB Director Debra Wolgemuth, PhD, IHN Director Richard Deckelbaum, MD, and NMB training faculty member Tony Ferrante, MD, PhD at this year's Wu Lecture and IHN retreat.

The training faculty meet several times a year, as needed, to provide overall direction and management of the Doctoral Program. Progress of students through the Program is overseen by the Training Committee (NMB-TC), which is currently comprised of Dr's. Debra J. Wolgemuth (Chair), William S. Blaner, Angela M. Christiano, Anthony Ferrante and Robert Schwabe. Dr. Richard J. Deckelbaum, Director of the IHN, is an ex-officio member of the NMB-TC. The NMB-TC meets regularly with first-year students and closely monitors the progress of upper level students.

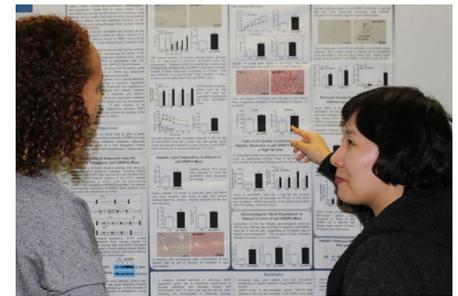
Objectives

The NMB program integrates a number of fields relating to human health and disease. Students with master's degrees or highly qualified baccalaureate degree holders are considered for admission to the Doctoral Program.

Students prepare themselves for qualifying examinations and dissertation research by judicious selection of required and elective coursework at the Medical Center and in other divisions of the University. Instruction is organized around a core area of concentration (see training areas below) through a combination of courses, seminars, tutorials, and laboratory research.

Students are expected to acquire expertise and knowledge in the areas of molecular and cell biology, physiology and metabolism, general and nutritional biochemistry, and biostatistics.

Students are provided exposure to underlying metabolic and physiologic derangements associated with clinical nutrition disorders. Emphasis is on problems related to obesity, atherosclerosis, diabetes, infant nutrition, gastrointestinal disease, renal failure, parenteral nutrition, and preventive nutrition.



Sharing science at this year's IHN poster session.

NMB thesis research training is available in molecular, cellular and biological aspects of:		
Atherogenesis and vascular cell biology	Micronutrient metabolism and function	Nutrition in growth and development
Cardiovascular disease	Vitamin A and retinoids	Cancer biology
Obesity and energy balance	Lipids and lipoproteins	Microbiology and immunology
Neurobiology	Diabetes	Cellular signaling
Molecular epidemiology	Bone metabolism and function	Stem cell biology

Coursework

The first year of the program consists of advanced courses and seminars in nutrition and molecular biology, elective courses, laboratory work and exploration of research opportunities for the dissertation topic. Course selection for individual students is at the discretion of the Training Committee and the Dissertation Research Advisory Committee (DRAC). First year students typically take the following required courses:

Required courses for the MA Degree	
Fall	Spring
Pathology G6003 Mechanisms of Human Disease I	Pathology G6004, Mechanisms of Human Disease II
Biochemistry G6300 Biochemical/Molecular/Cell Biology I	Biochemistry G6301 Biochemical/Molecular/Cell Biology II
Human Nutrition G9205 Doctoral Seminar in Nutrition	Human Nutrition G9205 Doctoral Seminar in Nutrition
One Biostatistics class (Fall only) Public Health P6104 Introduction to Biostatistical Methods or Public Health P6103 Introduction to Biostatistics (includes registration for P6114 Recitation)	Human Nutrition G4020 Molecular and Cell Biology of Nutrients
	CMBS 4010 Responsible Conduct of Research and Related Policy Issues

Electives may be taken at any time, usually after the first year in the program. The selection of courses should be based on the student's research interests and career goals, or to fill deficits in their background. Elective courses are offered in the following departments: Biochemistry and Molecular Biophysics, Biostatistics, Genetics and Development, Microbiology, Pathology and Cell Biology, Pharmacology, Physiology and Cellular Biophysics, and Psychology. Below is a selection of possible courses from which to choose:

NMB Electives	
Human Nutrition M8205 Biochemical and Physiological Basis of Nutrition part 1	Human Nutrition M8205 Biochemical and Physiological Basis of Nutrition part 2
CMBS G4150 Microbial Molecular Genetics	CMBS G4020 Biological Sequence Analysis
PATH G4500 Cancer Biology 1	GEND G4027 Principles of Developmental Biology
PHAR G8001 Principles of System Pharmacology	

Second-year students take additional courses, if needed, participate in research and seminars, have an initial meeting with their DRAC and complete the Qualifying Examination.

Third year students meet once or twice a year with their DRAC, in anticipation of preparation and submission of the dissertation. Ideally, at the end of the fifth or sixth year the research is completed and the dissertation is defended and deposited with the University.

Our History

Graduate training at both the masters and doctoral levels has been on-going at the IHN since its inception in 1954 under the direction of Dr. Henry Sebrell, Jr. Dr. Myron Winick followed in 1971 as Director until 1988, when Dr. DeWitt S. Goodman became Director. Dr. Goodman started a process aimed at strengthening and revitalizing the academic and research programs of the IHN, recruiting additional talented scientists from both clinical and basic science departments.

Following Dr. Goodman's untimely death in late 1991, Dr. Richard J. Deckelbaum succeeded him as Director. Dr. Deckelbaum has continued to strengthen and revitalize the academic and research programs of the IHN since becoming the Director in 1992. The number of students in the NMB PhD program has grown from sixteen to a steady state level of approximately twenty-five to thirty students. Dr. Deckelbaum, together with PhD Program Director and Associate Director of Research Dr. Debra Wolgemuth, training grant Co-PI Dr. Anthony Ferrante, along with other members of the NMB-TC, actively recruit both established and younger investigators in basic nutritional sciences to the Training Faculty, such that the number of potential mentors for our students has increased concomitantly from thirteen in 1991 to thirty-eight in 2016. This has resulted in a broadened scope of academic and research areas.

The NMB PhD program is the centerpiece of the extensive education and training activities in nutrition of the IHN and is supported by an NIH pre-doctoral training grant (T32 DK07647) now in its twenty-sixth year. This training grant was renewed this year under the leadership of Dr. Wolgemuth for an additional five years with an exceptional priority score of 11 (range is from 10-90, with 10 being a perfect score). This pre-doctoral training grant has been the catalyst for bringing together a group of investigators who share an interest in nutritionally important research questions. It has allowed us to develop a vibrant pre-doctoral training program in nutritional sciences with high quality students, recognized as 'truly exceptional' by the reviewers of the most recent training grant renewal. We are gratified that rankings by the Chronicle of Higher Education have placed the NMB PhD program as "first among all nutrition programs in North America".

Organization and Administration of the Graduate Programs at Columbia University Medical Center

Coordinated Doctoral Programs in the Biomedical Sciences at Columbia University Medical Center

Genetics and Development	Neurobiology and Behavior	Molecular Basis of Health and Disease	Biomedical Informatics	Integrated Program in Cellular, Molecular and Biomedical Studies
Genetics and Development	Animal Models of Nervous System Disorders Cellular and Molecular Neurosciences Neural Development Neurobiology and Behavior and Cognition Theoretical Neurosciences	Nutritional and Metabolic Biology Pathobiology and Molecular Medicine Pharmacology and Molecular Signaling	Bioinformatics Clinical Informatics Public Health Informatics Translational Informatics	Cardiovascular Physiology Cell Biology Computational Biology and Bioinformatics Microbiology, Immunology and Infection Molecular Biophysics Molecular Physiology and Cellular Biophysics Stem Cell Biology Structural Biology

The Training Program in Nutritional and Metabolic Biology (NMB) at Columbia University Medical Center (CUMC) is part of the Molecular Basis of Health and Disease umbrella program.

This includes, in addition to NMB, Cellular Physiology and Biophysics, Pathobiology and Molecular Medicine, and Pharmacology and Molecular Signaling. This umbrella is part of the Coordinated Doctoral Programs in Biomedical Sciences at CUMC.

http://sklad.cumc.columbia.edu/gsas/interior.php?sub=4_0

Summary of appropriate sequence of steps in the Doctoral Program

Year 1

- Complete coursework as determined by the NMB-TC
- Become familiar with training faculty's research
- Participate in three laboratory rotations
- Select thesis mentor

Year 2

- Select the Qualifying Examination Committee (by mid Spring of the second year at the latest)
- Complete the Qualifying Examination (by August 31st of the second year)
- Select the DRAC (often but not necessarily the same as the Qualifying Committee)
- Receipt of the MA degree
- Conduct dissertation research

Years 3+

- Receipt of the MPhil degree
- Participate in required academic activities, such as the Student Seminar series
- Conduct dissertation research
- Regular--minimum yearly--meetings with the student's DRAC
- Schedule and meet with DRAC about four to six months before the projected defense date
- Submit thesis draft (acceptable to mentor and to a designated reader)
- Select Dissertation Defense Committee (usually includes some members of the DRAC)
- Set defense date
- Submit thesis to the Defense Committee four weeks in advance of defense date
- Defend thesis
- Revise thesis, if needed
- Submit final thesis to the Dissertation Office

Note that over the last 5 years, the average number of years to completion of the PhD degree is now 6.0 years, down from 6.5.

Degree Requirements

Residence Units

GSAS regulations require a minimum of six residence units for the PhD. A residence unit is earned by full time registration for a semester. Two of these may be satisfied by units earned for the Master of Arts degree. Continuous registration, in the form of extended residence, is obligatory for the period of completion of all requirements for the degree. Under special circumstances, and with specific approval, students may be granted a limited leave of absence, as indicated in the GSAS rules. All work for the PhD should be completed within seven years, preferably within five to six years.

Grades

Students must maintain at least a B average in all courses (3.00) with no grades below a B- in a course. Students who fail to maintain a B average will meet with the Training Committee to discuss remedial options and possible withdrawal from the program.

Funding opportunities

All students are supported throughout their tenure in the program, including a stipend, tuition, health insurance, and fees. However, we strongly encourage students to consider applying for prestigious albeit highly competitive external sources of funding at different stages in their tenure in the program. Several of our recent and current students have successfully competed for NSF fellowships, F31 fellowships from the NIH, Department of Defense Fellowships, and a current student, Elizabeth Millings, was just awarded a UNCF-Merck Graduate Science Research Fellowship. Interested students should contact Dr. Wolgemuth for further information regarding these opportunities and their eligibility.

Educational opportunities other than coursework

The Med into Grad Program is led by Ronald Liem, PhD, Professor of Pathology and Cell Biology. The Co-directors of this program are Howard Worman, MD, Professor of Medicine and of Pathology and Cell Biology, and Steven Spitalnik, MD, Professor of Pathology and Cell Biology. James Peacock, MD, Medical Chief Resident, serves as assistant director.

The philosophy underlying this program is based on the recognition that the training of medical and graduate students is quite distinct. While medical education must focus on clinical application, PhD students usually attack a research problem that has no obvious clinical connection. The program believes that many of these projects will pay off for medicine, public health, or industry. Graduate students who are exposed to the rapid progress of basic research might, if properly trained, bring that knowledge and energy to clinical problems. Students from the three PhD programs that make up the Graduate Programs in the Molecular Basis of Health and Disease at CUMC, which includes NMB, are eligible for the Med into Grad Program. Students from the Integrated Program in Cellular, Molecular and Biomedical Studies (CMBS) as well as Neurobiology and Behavior Program are also eligible for the Med into Grad Program. To foster a direct interest in disease and the complexities that clinicians and researchers confront, the one year course "Mechanisms of Human Disease" was organized and serves as the foundation for the program.

The students are chosen based on their records, their application essay describing their interest in the Med into Grad Program and a personal interview with the Program Directors. During the year that they are part of the Med into Grad Program, the students will first go on rounds with one of the Attending Physicians in Medicine, go to an outpatient clinic with one of the Chief Residents in Medicine and will then be assigned a clinical mentor in their area of research. They will attend clinic or rounds with their clinical mentor approximately twice a month. The Program Directors also meet with the students twice a month and the students will take turn presenting cases that they observed. Students get course credit for their participation in the Med into Grad Program and it will count as an elective course in their home program. Competition for admittance is quite fierce, and the NMB Program notes with pride that 9 of the 26 students admitted to this program since its inception are from the NMB program.

MA Degree

A student enrolled in the NMB PhD Program will be awarded the MA degree upon completion of the requirements outlined below. It is expected that most students will be able to complete the course requirements at the end of one year of residence in the PhD Program and the degree is usually awarded at the end of the second year in the program.

1. **Successful completion of thirty credit points.**

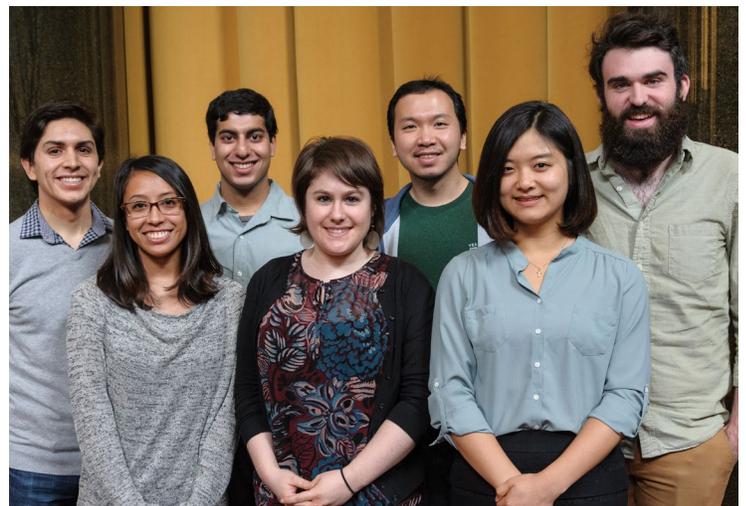
Twenty-four points come from coursework, the remaining six points come from credit received for research rotations, (Human Nutrition G9011, Doctoral Research in Nutrition, three points/term).

2. **Satisfactory progress towards completion of the required courses of the Doctoral Program in NMB.**

PhD students who have taken equivalent courses at other universities may be exempted from some of these course requirements. Such an exemption will be established through mutual agreement between the student and the NMB-TC. If a student is exempted from a course requirement, the student chooses an appropriate elective course(s) in order to fulfill the twenty four point-requirement established above. A full description of the courses is provided to entering students during orientation, but the following provides an overview of the required courses, electives, etc.

3. **Continuous enrollment in the Doctoral Seminar in Nutrition Course (G9205).** Students participate in the seminar throughout the doctoral training period. Attendance is required at all seminars to obtain a passing grade and credit for the course. Failure to attend will result in a grade of Incomplete, which must be remedied in order to graduate. The remedial action required is determined by the NMB-TC on a case by case basis.

4. **Completion of three research rotations.** The goal of these laboratory rotations is to familiarize the student with the research being carried out by the training faculty and to identify a research mentor, usually from among the NMB training faculty. The approximate dates for the three rotations would be: October through December for the first rotation, January through March for the second rotation, and April through June for the third rotation. Although not encouraged, students may undertake a fourth rotation in July and August. Students usually rotate with faculty in the training program but may request a rotation with faculty outside of the program. Students are permitted one out-of-program rotation; students must solicit the approval of the NMB-TC to take a second out-of-program rotation. The level of activity in the



Second year NMB students taking a break at this year's IHN Wu Lecture and Retreat.

rotation is decided upon by mutual agreement between the laboratory director and the student. Typically, a student may choose to carry out a well-defined independent research project in the laboratory. No grades are given for the laboratory rotations. In accordance with GSAS guidelines, students are evaluated as having passed with honors, passed, or failed. A written evaluation of their performance is submitted on forms available from Leslie De Peña and becomes part of their files in the IHN office. It is critical that students identify their thesis mentor during their first year in the program, preferably by the end of June and by mid-August at the latest.

5. **Four Residence Units.** One Residence Unit is awarded for each term of enrollment in the program.

MPhil Degree (prerequisite: MA degree or equivalent)

A student in the PhD Program in NMB will be awarded the MPhil degree upon completion of the requirements listed below. It is expected that all students will be able to complete these requirements by the end of the third year of residence in the PhD Program.

1. **Successful completion of all of the of the course requirements established by the training program in NMB (as listed in the requirements for award of the MA degree).**

2. **Completion of six residence units.** As noted above, one residence unit is awarded for each term of enrollment in the program. Ph.D. students who, upon entrance to the Graduate School, have completed the requirements either a) for an appropriate Masters degree, conferred in another division of Columbia or by another regionally accredited institution (or the international equivalent), or b) (occasionally) for an appropriate professional degree taken at Columbia or elsewhere may be eligible for advanced standing. To receive full advanced standing (two Residence Units) the previous degree must be the academic equivalent of the Columbia MA and must be judged to be such that it advances the student by one year toward the MPhil and PhD degrees. Students who have been granted full advanced standing (two Residence Units) are not eligible to receive an MA from the GSAS.

3. **Successful completion of the Doctoral Qualifying Examination.** The Qualifying Examination must be completed before the end of the second year of residence in the PhD program (August of Year 2). It is the student's responsibility to schedule the exam, but the NMB-TC and the IHN administrative office are available to assist. In preparation for this it is necessary for the student and his/her advisor to form a Qualifying Examination Committee, preferably by late fall or early spring of the student's second year in residence. The Committee will be comprised of three members of the NMB Training Faculty. On occasion, the Committee may include two members of the NMB Training Faculty and another faculty from the GSAS outside the NMB Program, who must be approved by the NMB-TC. The mentor is an ex-officio member of the Qualifying Committee. The student should obtain the forms for documenting the stages of the Qualifying Examination from Leslie De Peña in the IHN office and should be returned to Leslie upon completion.

The format of the qualifying exam is as follows:

Selection of Topic: The topic of the proposal may be related to the student's research, but must not be directly related to any grant proposal submitted by or under development in the mentor's laboratory. The topic is proposed by the student, usually in consultation with the advisor, and must be approved by the Qualifying Examination Committee. Because the topic of the proposal is distinct from the student's current research, the preliminary data section of the proposal is de-emphasized. On occasion, students are so successful in their exam and oral defense that the exam topic turns into part of the thesis project. This is a very satisfying outcome of the exam, but it is NOT the goal. The purpose of this exam is to test the student's ability to think critically and independently.

Preliminary meeting with the Qualifying Examination committee: The student and mentor together select three members of the NMB training faculty and ascertain their willingness to serve on the committee. It is recommended to begin this process as early as November of the second year in residence and no later than mid-spring. The committee, mentor, and student meet to review the topic(s) that the student proposes for the examination and confirm that the topic is both appropriate and distinct from work in the mentor's lab that is ongoing or has been formulated into a pending grant application, etc. To facilitate this evaluation, the student usually prepares a thirty-minute presentation of their proposed thesis research and any progress to date. It is strongly recommended that the committee members are informed about the format of this initial meeting by the student when they are asked to serve on the committee. Following the meeting and selection of the topic for the proposal, it is not anticipated that students will have extensive interaction with the members of the committee until submission of the final proposal and the oral defense.

Preparation of written proposal: At the final discretion of the mentor with regard to date, the student will prepare a research proposal of maximum length of seven pages (single space, ½ inch margins or wider, and excluding references cited). The format of the Qualifying Examination is modeled after the submission of a pre-doctoral fellowship application

to the NIH with the intent of preparing students for their future roles of being successful PIs and evaluating their ability to become so. The proposal is meant to reflect the independent and original work of the student, although the student is permitted to discuss ideas with colleagues, including the mentor. It should be noted that the Qualifying Examination must be completed by August 31st of the second year in residence. Failure to do so will result in the inability of the student to register for the Fall term.

A. Specific Aims (1 page) State precisely the goals of the proposed research and summarize the expected outcome(s) including the impact that the results of the proposed research will exert on the field of nutritional and metabolic biology.

List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm, address a critical barrier to progress in the field of nutritional and metabolic biology.

B. Research Strategy (6 pages) Organize the Research Strategy in the specified order, using the instructions provided below. Start each section with the appropriate section heading – Significance, Research Plan, and References Cited.

Significance

- Explain the importance of the problem or critical barrier to progress in the field of nutritional and metabolic biology that the proposed project addresses.
- This should include relevant background information as to the problem under study and its significance to human health or nutrition

Research Plan

- Hypotheses and Rationale (information in support of the proposed approach; is it feasible?)
- Experimental Approach (focus on each specific aim in turn)
- Anticipated Results and Alternative Strategies (the manner in which the experiments will be interpreted, including potential experimental problems to be encountered and how they will be overcome).

C. References Cited. Although there is no specified format for the bibliography, most faculty find full citations (i.e., all authors listed) most helpful, especially in evaluating the background and significance of the project.

Oral defense: Subsequently, and expeditiously (basically as soon as it is possible that the committee can be convened after handing in the proposal, ideally within two to three weeks of submission of the proposal), the student will be expected to orally defend the proposal to the Qualifying Examination Committee. This will consist of a twenty to thirty minute presentation of the proposal, emphasizing the specific aims and experimental approaches proposed. The remainder of the exam will comprise responses to questions from the Committee relating to both the written proposal and the oral presentation. In the final oral exam, the mentor will be present, but will not participate in examining the student's performance, nor in voting for a pass or fail in the examination. The mentor may assist with any misunderstandings that may arise on the part of the Committee.

Submission of the Qualifying Examination report. The form for this report should be obtained from Leslie De Peña in the IHN office, completed at the time of the exam, and returned to Leslie upon completion.

4. **Satisfactory research progress**, commencing from the initiation of dissertation research at the start of the second year of residence in the program, continuing through award of the M. Phil. Degree and completion of the dissertation.

5. **Continuous registration and participation in the Doctoral Seminar in Human Nutrition and Reviews in Nutrition.**

PhD Degree (Prerequisite: the MPhil Degree)

1. **Continued good standing and completion of required courses:** Students register for and are expected to attend the Doctoral Seminar in Nutrition (G9205) throughout their academic career. In Years 2, 3, and 4, students register for and participate in Reviews in Nutrition (G9300), a course that is designed to provide students with instruction and state of the art information on subjects that are important and topical to modern nutrition. For each topic reviewed, a supervising faculty member or an invited outside expert provides a list of readings and gives a one hour presentation. After the lecture, two students (pre-assigned) are responsible for leading a discussion of the papers. The topics covered in the "Reviews in Nutrition" component reflect current research trends in nutrition. Effort is made to select topics so that current research in clinical nutrition and public health nutrition is integrated with work in the basic nutritional sciences. In the 4th or 5th year in the program, students will participate in a refresher course in the Responsible Conduct of Research

which will consist of discussion of hypothetical case studies involving ethical issues that can arise in the process of conducting research. This course will be given once a month in the fall term and will be held following the Monday Student Seminar. Dr. Wolgemuth, other members of the Training Committee, and Dr. Deckelbaum will lead these discussions. No course credit is given for the course but participation is mandatory.

2. **Thesis Research and Dissertation Research Advisory Committee:**

The candidate will prepare and defend, with the approval of his or her Dissertation Research Advisory Committee (DRAC), a dissertation embodying original research in the nutritional sciences. During their first year of the program, students are expected to familiarize themselves with the research interests of the faculty. This, in part, will be accomplished through the laboratory rotations. A research mentor should be selected during the first year of doctoral studies. The mentor is usually a member of the NMB Training Faculty and must be a member of GSAS. The NMB-TC is notified of the proposed mentor and final selection must be approved by the NMB-TC. Members of the Qualifying Examination Committee frequently continue on to serve on the student's DRAC, composed of a minimum of the thesis mentor and two other faculty members of GSAS. Additional faculty with particular expertise to the student's research are often added. The DRAC and the student meet periodically (minimum of once per year) to discuss his/her work and progress. Members of the DRAC can be changed if the development of the student's research direction makes such a change desirable. A report of the student's progress must be filed annually with the IHN administrative office following the DRAC meeting. These forms are available from Dr. Wolgemuth or Leslie De Peña.



Kelly Ruggles, PhD ('12) celebrates after successfully defending her thesis "Cellular Fatty Acid Toxicity: Extrapolating Yeast Screens into Mammalian Models".

The student is expected to carry out an extensive and significant amount of original research, which will be described and discussed in detail in the dissertation. Published articles, although of value in demonstrating the merit of the completed research, are not a substitute for the dissertation, but may be included in the thesis.

3. **Thesis Defense:** The completed research dissertation is defended before the faculty at a formal examination in which the student can discuss and defend the dissertation with respect to its sources, findings, interpretations, and conclusions.

The doctoral defense will be conducted by a final defense committee that is composed of five members. Typically, at least three of the members of the final defense committee are from the NMB Training Faculty and at least one of the five must be either: i) a faculty member who holds a position at another university or research institution; ii) a full-time faculty member at Columbia University outside the student's own department or program; iii) a research scientist at Columbia University outside the student's own department or program; iv) an adjunct professor at Columbia University outside the student's own department or program; v) a full-time faculty member whose appointment is at Barnard College, Jewish Theological Seminary, or Union Theological Seminary; or vi) a full-time faculty member in the student's interdisciplinary program whose field is outside of the student's dissertation field.

Examiners from the list above are proposed by the mentor and student in consultation with the Program Director. When submitting the Report of the Dissertation Proposal Committee form (<http://gsas.columbia.edu/sites/default/files/GSAS-proposal.pdf>) and the Dissertation Defense Application (<http://gsas.columbia.edu/sites/default/files/GSAS-defense.pdf>), the department/program provides the Dissertation Officer with evidence of the examiner's qualifications, usually a curriculum vitae, for approval by the Dean's office. Final approval of the members of a final defense committee rests with the Dean of the Faculty of the Graduate School of Arts and Sciences.

When proposing defense committee members who have not been previously approved to serve on a defense committee and who do not have a Columbia affiliation, and/or do not serve at Columbia in an adjunct capacity, and/or do not hold a Ph.D. or equivalent the candidate must submit to GSAS a copy of the proposed committee member's Curriculum Vitae together with the final defense examination.

Please note that the criteria for the composition of the Thesis Defense Committee are mandated by the GSAS and are not PhD Program-specific.

Although not strictly required, it is strongly recommended that one member of the defense committee serve as the Reader of the thesis. The Reader works with the student and the mentor during the writing of the thesis, before it is distributed to the full committee.

The defense is divided into two parts. The first, which lasts about an hour, is an oral presentation of the research findings. This session is open to the public and is announced in advance. The second part, which follows immediately afterwards, is a closed session conducted by the Dissertation Defense Committee, and Chaired by a senior faculty member who is not the thesis mentor. When questioning is completed to the satisfaction of the Defense Committee, the student steps outside, while the final decision is discussed. The Defense Committee may rule to award a Pass, an Incomplete, or a Failing grade.

After the defense of the thesis, revisions are made as needed. Copies of the final version are submitted to the Dissertation Secretary of GSAS, as well as to the Director of the Institute and the thesis preceptor. It is suggested that the student review the GSAS handbook for details of other requirements that the Graduate School may establish.

Contact Us

Please contact Leslie DePeña at lm24@cumc.columbia.edu with any questions related to your application or the admissions process.

You may call us at 212-305-4808.

Visit us on the web at <http://www.cumc.columbia.edu/ihn>