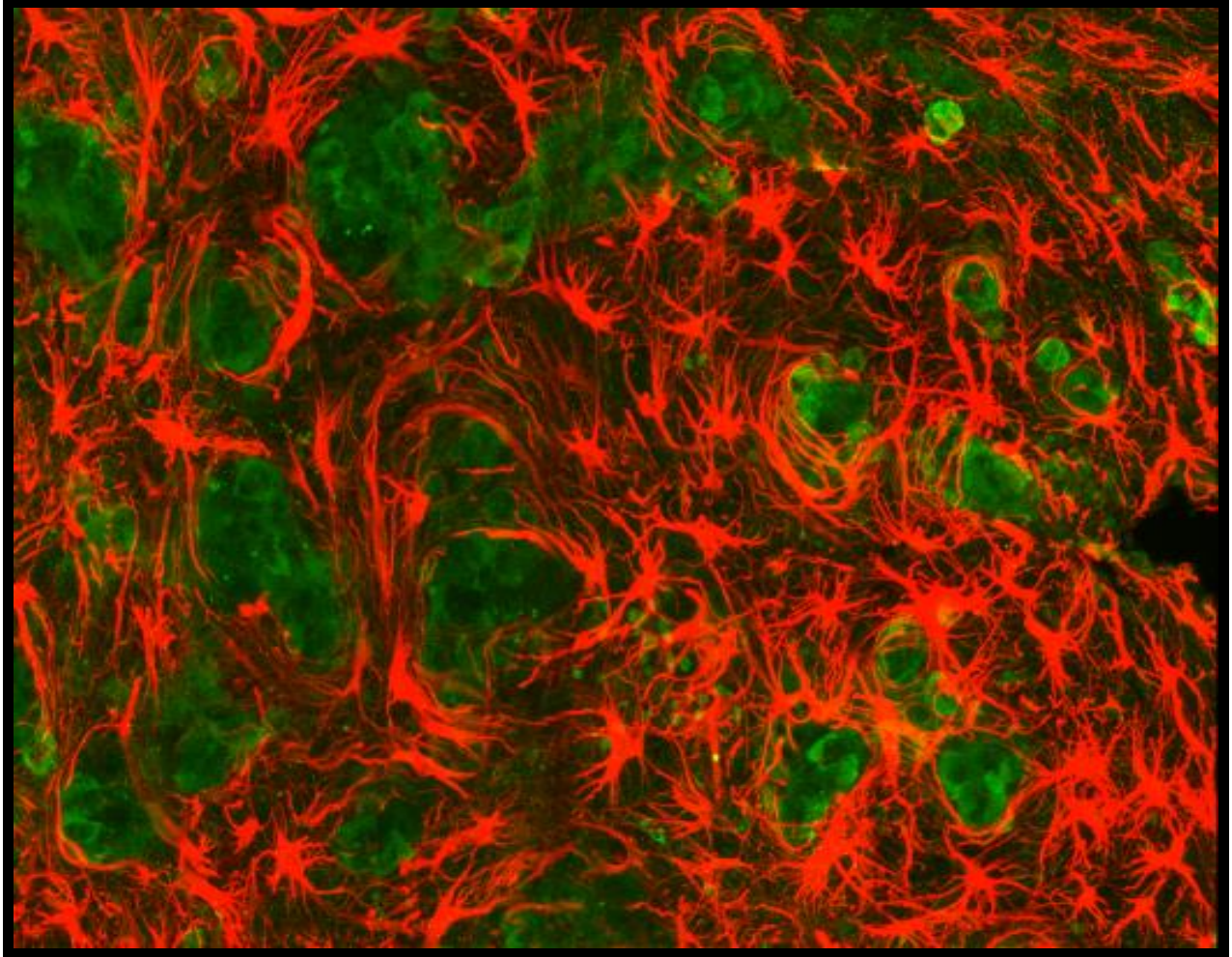
2018-2019
BCMB Program Handbook



The cover photo presented is a snapshot of inflamed/activated astrocytes surrounding breast cancer brain metastatic cells, credited to Bryan Ngo, from Dr. Lewis Cantley's lab and Chenu Jaywickreme, from Dr. Luis Parada's lab.

Weill Cornell Graduate School of Medical Sciences

Memorial Sloan Kettering Cancer Center

Weill Cornell Medicine
Graduate School of Medical Sciences

BCMB Allied Program

Biochemistry & Structural Biology, Cell & Developmental Biology, Molecular Biology

Michael Overholtzer, PhD (overhom1@mskcc.org)
Mary Baylies (m-baylies@ski.mskcc.org)
Program Directors

Vanessa Dodson (vad3003@med.cornell.edu)
Denise Jenkins (djenkins@med.cornell.edu)
Program Coordinators

Biochemistry & Structural Biology

The Biochemistry &Structural (BSB) program offers opportunities for advanced training in the application of biochemical, structural, biophysical and imaging methods, to address questions relating to biological processes and mechanisms.

Cell & Developmental Biology

The Cell & Developmental Biology (CDB) program comprises over 88 faculty members whose research focuses on a wide range of topics related to the control of normal and malignant cell growth, differentiation, and tissue development.

Molecular Biology

The Molecular Biology (MB) program provides unique research training to students in the molecular pathways involved in the control of nucleic acid transactions, gene expression, and cell growth and proliferation.

2018-2019 Rotation Dates

Summer Rotation: Jul 2 - Sept 3
Fall Rotation: Sept 19 - Dec 5
Winter Rotation: Jan 7 - Mar 25
Spring Rotation: Apr 1 - June 17

Becoming a Doctoral Candidate- First Year Requirements

In their first year, BCMB Allied students must complete the program's core curriculum courses and a minimum of three (3) lab rotations. Lab rotations are an important component of the students' first year in that they help him/her to decide on a research focus and select a thesis mentor, which is required by the end of the first year.

Thesis Mentor

The choice of a mentor determines a student's program assignment: Biochemistry & Structural Biology, Cell & Developmental Biology, or Molecular Biology. The mentor helps the student select his/her Special Committee, consisting of the mentor and two other faculty members knowledge-able in the student's research field. The committee evaluates the student's research and progress through the rest of his/her WCGS career. Selection of the mentor and the committee typically occurs before the student starts their second year of study.

Admission to Doctoral Candidacy Examination (ACE)

In spring of the second year, the student takes the Admission to Doctoral Candidacy Examination (ACE), which includes a written component (a research proposal), and an oral examination in which the student defends the proposal and demonstrates general knowledge. Committees made up of program faculty members administer the written and oral ACE. When a student passes the ACE, she/he is a candidate for the PhD degree.

PhD Research and Degree

Within six months of passing the ACE, the student must submit a five-page thesis project description to the Special Committee and meet with the committee for its approval. Thereafter, the student and the committee meet together regularly -- at least annually -- from year two until the student's graduation. After Passing the ACE and while working in the laboratory, the student must also complete one elective course (for a total of two quarters,) and participate in BCMB Student Seminars from years three to five. During the second through fourth years, while working in the laboratory, the student must also complete one elective course (two quarters) and participate in in-depth focus groups, which examine topics relevant to the fields of biochemistry, cell biology and molecular biology.

The culmination of the student's successful progression through the program is the final examination (the "defense") and certification by the Special Committee that the thesis represents an official piece of research that satisfies the requirements of the WCGS for the PhD degree.

Academic TIMELINE

Weill Cornell Graduate
School of Medical Sciences

BCMB Educational Program 2018-2019

CORE COURSES

i) First Year - ***all students must complete the core sequence of:***

Molecular Genetics	Quarter I and II
Biochemistry	Quarter I and II
Responsible Conduct in Research (4 live sessions)	Quarter I Quarter II
Logic and Critical Analysis	Quarters II and III
From Genes to Cells	Quarters II and III
From Cells to Organisms and Disease	Quarters III and IV

ii) Course in Quantitative Biology

All students enrolled in PhD programs within the Weill Graduate School of Biomedical Sciences are required to complete a one quarter course in Biostatistics. For BCMB students, this course will be taken during Quarter I of their second year in the program.

iii) Elective Course Work

Before graduation, students must complete additional elective coursework prior to submission of their thesis. In addition to participation in the BCMB Student seminars, two additional quarters of electives must be fulfilled. These electives are generally taken in years 3 and 4.

BCMB Student Seminars. Learning how to effectively communicate one's science is an important skill to acquire during PhD training. BCMB student seminars involve two 30-minute research-in-progress presentations from BCMB graduate students, to be scheduled at the beginning of each academic year. These will typically occur on Friday afternoons from 1:30-2:30 pm. BCMB students **are required** to attend in years 3-5 and **are required** to present seminars in years 4-5. All other BCMB students are encouraged to attend, and opportunities to present are available to all students on a volunteer basis. Required attendance can be excused only by written permission from a course director or program co-director. BCMB Student Seminars can also be taken for one-quarter elective credit by BCMB students with special permission from the program co-directors.

Focus Groups. Focus groups are available for one quarter elective credit and are student-organized, journal club-style discussion sessions of primary literature. Discussion topics proposed by students must be approved by the program co-directors, and students must recruit a minimum of two Weill Cornell Graduate School faculty members and five students to participate in the focus group. Focus groups must meet together for a minimum of ten sessions, involving in-depth discussions of primary literature that addresses the chosen topic. For each research paper that is discussed, typically one student is assigned to present a powerpoint introduction to start the session.

BCMB Educational Program 2018-2019

Traditional Courses: To fulfill the remaining 2 quarter elective requirement, students may substitute a traditional course on a subject relevant to their thesis project. Possible courses offered at Weill Cornell include Methods in Biophysics, Principles of Developmental Biology, and Cryoelectron Microscopy of Macromolecular Assemblies (@NYSBC). Alternative courses offered at other institutions can also be used to fulfill this requirement but require prior approval by the program directors. Upon review of the course syllabus, the course directors will determine if elective courses will be awarded either 1 or 2 quarter of credits.

Students are required to complete the core curriculum during the first year and are advised to spread out the elective course requirements during the second and third years. All core courses must be completed with a grade of high pass or better to remain in good academic standing (see "Good Standing Within the BCMB Program" below). All of the core courses cover material that is not usually taught at the undergraduate level and is crucial for success in science. "Logic and Critical Analysis", "From Genes to Cells" and "From Cells to Organisms and Disease" rely heavily on primary literature and classroom discussions. Active participation is expected and required to receive a passing grade in these courses. Failure to participate fully and obtain a High Pass or better will result in the review of a student's status by the program co-directors.

The Curriculum Committee may exempt a student from elective courses if the Committee determines that an equivalent course has been taken at other undergraduate or graduate institutions. If a student wants to obtain a course exemption, one of the program directors must be notified and a written petition must be submitted to the Curriculum Committee. Courses taken prior to matriculating in the BCMB Program may not be used to substitute for any of the Focus Group requirements.

BCMB Educational Program 2018-2019

LABORATORY ROTATIONS

All students are required to complete three laboratory rotations that are acceptable to the Faculty.

Rotation periods are:

Summer Rotation: **July** 2 – **September** 3
Fall Rotation: **September 19 – December 5**
Winter Rotation: **January** 7 – **March** 25
Spring Rotation: **April** 1 – **June 1**7

Laboratory Rotation Policies:

Lab rotations are an important aspect of your first-year curriculum. It is a chance for you to learn new techniques, to demonstrate your curiosity for scientific research and reasoning, and to determine whether that particular lab is a good match for you. It is also a time for the rotation mentor to evaluate your ability to do bench research and your understanding of the technical and theoretical aspects of the project and the broader set of questions being addressed in the lab.

You must inform the first year advisors of the lab that will host your rotation by September 23, January 11, and April 5 for the first, second and third rotation, respectively. At the end of each lab rotation, it is your responsibility to prepare a brief lab report. Your rotation report should summarize your work in a maximum of two pages of text, excluding figures and references. Please attach a front page with your name and the signatures of your rotation mentor and first-year advisor to indicate their approval of your report. Reports should be completed and approved by the rotation mentor by the end of the rotation. These reports should be submitted to the first year advisors. Once approved by the first year advisor, reports are then submitted to Vanessa Dodson's office, Cornell A-131. You must also forward an electronic version to Vanessa Dodson. The rotation mentor will submit a written evaluation as well. You should schedule a meeting with your rotation mentor at the conclusion of the rotation to discuss your progress and for a critique of your performance. Submission of all three rotation reports is required to remain in good academic standing and to progress to the elective courses and the ACE exam I.

i) It is expected that students will have chosen a thesis mentor by July 1st. The choice of mentor determines the student's Program assignment, (Biochemistry & Structural Biology, Cell and Developmental Biology or Molecular Biology). Students must inform Vanessa Dodson's office, Cornell A-131, once they have chosen a thesis mentor.

ii) Only for students who start in the Summer: the period July - September counts as one rotation. You are expected to choose a second rotation to begin in September, You may choose a thesis mentor in March at the end of the second standard rotation period (which will be your third rotation). However, there is no guarantee that the particular lab of interest will be accepting students at that time. This

scenario could arise if the lab is still in the process of evaluating rotation students in their third standard rotation (April - June). Unless you have an existing commitment to join a lab by March 29, you should make arrangements to start a 4th rotation to commence on April 1.

iii) Each lab is eligible to take a maximum of 2 students per year from within the Allied Program.

FIRST YEAR REVIEW

The progress of all 1st year students is reviewed by the program directors at the end of the first year and reported to the curriculum committee. If a student has encountered difficulties during the 1st year curriculum, leading to the student being placed on academic probation, the student's case will be reviewed by the full curriculum committee. The main purpose of this review is to identify the strengths and weaknesses of each student, so that, if possible, the student and faculty can work together to remedy any deficiency in training. At the end of the review, the committee will make a decision regarding the resolution of the student's probation status, which can range from prescribing a course of action to remediate any evident weaknesses (examples include requiring the student to re-take courses or attend specific focus groups, or recommending that the student be dismissed from the program). The student will receive a formal letter describing the committee's decision, which will be placed in his/her graduate school file.

PROGRAM DIRECTORS AND FIRST YEAR ADVISORS

The BCMB Program co-directors also serve as first-year advisors for the incoming students. They are Dr. Michael Overholtzer (overhom1@mskcc.org) and Dr. Mary Baylies (m-baylies@ski. mskcc.org). They are available to assist you and help make your first year go as smoothly as possible. Please feel free to contact them for curriculum planning, information, problems, etc.

CURRICULUM COMMITTEE

Co-chaired by the Program Directors, Drs. Michael Overholtzer and Mary Baylies, and consisting of approximately 15 faculty members, this committee oversees all educational aspects of the Programs. They are responsible for assembling the curriculum, setting course requirements, adjudicating student applications for exemption from course requirements, administrating the evaluation of students at the

end of their first year, and establishing the format of the Admission to Candidacy Examination (ACE).

GOOD STANDING WITHIN THE BCMB PROGRAM

To remain in good academic standing in the Programs, students must achieve a grade of B or better (High Pass) in each required course and maintain a High Pass average in all course work. A grade of Low Pass or Fail is unacceptable and may result in the student being placed on academic probation status. Completed rotation reports are also required to remain in good standing. Students in the 2nd year or above are also required to have a thesis mentor to remain in good standing. Students in the 3rd year or above are required to present annually at a scientific meeting (see item J below) and to complete an annual Special Committee meeting to remain in good standing. If a student at any point fails to meet the requirements for good standing, they may be placed on academic probation and either the Curriculum Committee or another appropriate committee empowered by the Curriculum Committee will meet to discuss the case and can make one of three recommendations to the Dean: i) that the student be prescribed a course of action for returning to good standing, ii) that the student be allowed to continue to pursue a Ph.D., iii) that the student be asked to leave the Program. If a student is allowed to attempt to return to good standing, the student will remain on probation until fulfilling all of the specified requirements to the satisfaction of the Curriculum Committee.

BCMB Educational Program 2018-2019

ADVANCE TO CANDIDACY EXAM

A student must be in good academic standing to take the ACE. The ACE is administered in two sections: a written exam and an oral exam. For the written exam, the student prepares a research proposal on a topic selected by the student and approved by the ACE Committee. The ACE Committee consists of several faculty members whose membership on the committee rotates. The current chair of the ACE committee is Dirk Schnappinger. The written proposal is reviewed by the ACE Committee and returned to the student with a written critique. The oral exam tests the student's ability to respond to comments in the critique, as well as the student's general knowledge. The Examining Committee for the oral consists of five faculty members: the Special Committee (i.e. the research mentor and two additional faculty members), a chairperson, and one additional member. At least one of the five members is also a member of the ACE Committee. Before taking the ACE, students must have completed the core sequence of courses; however, they need not have completed their elective courses. The ACE is taken during the Spring of the second year.The official description of the requirements and procedures for the ACE is contained in a separate document that will be provided to students upon completion of their first-year requirements.

No later than six months after completion of the ACE, each student is required to convene her/his first Special Committee meeting (see below for composition of the Special Committee). In addition, the student is required to prepare a written document outlining the thesis hypothesis, some background information, and a brief description of the experimental approach (i.e., rationale and anticipated and possible unanticipated results, etc.). This document should be no longer than 5 pages, excluding illustrations and references. It must be submitted to the Special Committee members at least one week in advance of this meeting. At the meeting, the student should be prepared to discuss in depth the background (general and specific) of the project, approaches that will be taken, and what has already been accomplished. This meeting will serve as a mechanism to ensure that the Thesis Project is outlined and that the student has considered the biological relevance of the project. It will also serve to familiarize the Committee with the student's project and to allow the committee to provide constructive comments. The 5 page document must be approved by the committee. A brief report will be completed by one of the committee members (not the thesis mentor) and returned to Vanessa Dodson, along with a copy of the document, for forwarding to the Program Directors. Completion of the post-ACE first Special Committee meeting is required to remain in good academic standing.

ACE TOPIC CHOICE

The topic is up to the student, with the following advisory considerations: It is the student's privilege to have flexibility and latitude in choice of the ACE topic. However, it is the student's responsibility to convincingly demonstrate independence of thought. The closer the ACE topic is to research projects previously conceived by the student's mentor or already being conducted in the host laboratory, the more difficult it may be to establish the independence of the student's thinking. However, it is often the case that the ACE is taken at a point when the thesis topic is not defined or the thesis topic that was initially chosen does not pan out. An independently-conceived ACE topic may give shape to or even become a thesis topic; this is welcomed.

BCMB Educational Program 2018-2019

The only restriction on topic choice is that all portions of the document must be written entirely independently from the student's mentor. While the student is encouraged to build on work previously conducted in the host laboratory, direct incorporation of specific aims, hypotheses or conclusions from a previously written grant application from the mentor (or anyone else) is not allowed. The mentor must certify that the specific aims were developed and written independently, and that the content of the ACE proposal was not "lifted" from a pre-existing research plan. The student will be held responsible for all ideas expressed in the proposal, and will be expected to explain, justify and defend all concepts described in the written document.

A suitable topic is one that incorporates experimentally testable models or hypotheses, is amenable to rational experimental design, and results in more than one predictable outcome for the experiments. Research topics that are seen as "fishing expeditions" or are not hypothesis-driven will generally not be approved.

As noted above, the lab head will be given the proposed aims and the completed written exam. For the student to proceed, the lab head must attest that the aims were prepared independently and that they reflect the original work of the student.

BCMB Educational Program 2018-2019

SPECIAL COMMITTEE

Once a thesis mentor has been agreed upon (which should occur by July 1), the student, in consultation with the mentor, forms a Special Committee composed of the thesis mentor and two additional faculty members. This committee acts to evaluate a student's research and should also serve as an informational resource to the student. Special Committee forms are available from the graduate office (Cornell A -131) or on the Graduate School Website.

A Program Director must sign these forms, which are then returned to Vanessa Dodson, who files them with the Dean's office. Any subsequent changes must be approved by a student's mentor and the appropriate Program Director, and be indicated on the form on file in the Dean's office.

The Special Committee must meet at least once per year from year 2 through graduation. Annual special committee meetings are a requirement for remaining in good academic standing. For each Special Committee meeting (following the one that occurs within 6 months of completing the ACE), the student should prepare a 1-2 page written outline of progress and future goals. This must be submitted to all committee members prior to the meeting.

REQUIREMENTS FOR FORMAL PRESENTATIONS OF SCIENTIFIC DATA

The ability to accurately and effectively present scientific data in a formal setting is vital to a productive scientific career. To encourage students to gain such experience, all students upon completion of their ACE must annually present original data at a formal scientific venue. This requirement can be fulfilled by presenting a Talk or Poster at the annual Vincent Du Vigneaud Memorial Symposium hosted by the Weill Cornell Graduate School, the annual BCMB Program Retreat held every Fall, various Departmental Seminar Series or at any National or International Scientific meeting. Fulfillment of this requirement must be verified at the student's annual special committee meeting. The student is required to submit to the special committee the abstract of the presentation.

ACADEMIC REQUIREMENTS FOR MD/PHD STUDENTS

MD/PhD students enter the Graduate Program following completion of:

- the Frontiers in Biomedical Science courses, which they take in the first two years of medical school,
- three lab rotations, during the summers preceding the first and second years of medical school and the summer after the second year of medical school.
- the first two years of the Medical School curriculum. MD/PhD students select their thesis laboratories and initiate their thesis research in the fall of their third year. During this year they also take four additional quarters of graduate courses, which they can take at either the Weill or the Rockefeller graduate schools. The ACE is administered to MD/PhD students in the Spring/summer of their third year.

MD/PhD students must submit their Rockefeller Thesis Proposal (RTP) to both the MD/PhD office and the program coordinator at the Graduate School. All Weill Graduate School MD-PhD students must have a faculty member from the Rockefeller Graduate School on their special committee.

BCMB Educational Program 2018-2019

THE HONOR CODE

All students are expected to strictly follow an honor code in all academic and scientific pursuits throughout their tenure in the Graduate School and beyond. This includes strict observance of rules regarding take-home exams, in-class exams and other academic assignments. Violation of the honor code will result in immediate failure of a class and potential dismissal from the program. Any student who is unclear as to what constitutes a violation of the honor code, or who has any concerns about possible violations, should contact the Program Directors.

YOU MUST KEEP THE PROGRAM OFFICE UPDATED ON THE FOLLOWING:

****LABORATORY LOCATION (ROTATION)****
LABORATORY TELEPHONE NUMBER
HOME ADDRESS
HOME TELEPHONE NUMBER

THESIS DEFENSE

Thesis research is typically completed within 5-6 years of tenure in the Program. Following final approval by the Special Committee, the thesis is written by the student under the direction of the Major Sponsor. The Oral Thesis Defense (Final Examination for the degree of Ph.D.) is scheduled with the Graduate School Office at least 30 days in advance. A completed written thesis must be submitted to the Examining Committee two weeks prior to the Thesis Defense date. The first part of the Thesis Defense is public (friends and family are welcome) and consists of a 40-60 min seminar-style presentation by the student that summarizes their thesis research. This is followed by the departure of all attendees, other than the student, Examining Committee, and members of the graduate school faculty who wish to observe the exam. The Examining Committee consists of four members: the Special Committee (major and two minor sponsors), and a chairperson (suggested by the student, approved by the Dean). If desired by the student, an external examiner (selected by the student and major sponsor) can also join the committee. A successful oral defense and acceptance of the written thesis will result in a recommendation to the Dean for the award of a Ph.D. degree.

PUBLICATIONS

When you are listed as an author on a publication or abstract, please be sure to acknowledge your WCGS Program. For Example: "student name is a member of the Pharmacology Graduate Program, Weill Cornell Graduate School, New York, NY. "Acknowledging membership in your mentor's department/center/institute is also appropriate. In addition, if you have received T32, F31, NSF, or other individual funding, that should be acknowledged as well.

Table I. Listing of all BCMB Program Faculty

Full Name	Email	Primary Affiliation	Secondary Affiliation
Omar Abdel-Wahab	abdelwao@MSKCC.ORG	MB	
C. David Allis	C.David.Allis@ROCKEFELLER.EDU	MB	
Olaf Andersen	sparre@MED.CORNELL.EDU	PBSB	BSB
Kathryn Anderson	k-anderson@SKI.MSKCC.ORG	CDB	
Zhirong Bao	baoz@MSKCC.ORG	CDB	
Francis Barany	barany@MED.CORNELL.EDU	MB	BSB
Christopher Barbieri	chb9074@MED.CORNELL.EDU	CDB	
Mary Baylies	m-baylies@SKI.MSKCC.ORG	CDB	
Robert Benezra	r-benezra@SKI.MSKCC.ORG	CDB	
Scott Blanchard	scb2005@MED.CORNELL.EDU	PBSB	BSB
John Blenis	job2064@MED.CORNELL.EDU	PHA	BSB
Carl Blobel	blobelc@HSS.EDU	CDB	PBSB
Olga Boudker	olb2003@MED.CORNELL.EDU	PBSB	BSB
Anthony Brown	amcbrown@MED.CORNELL.EDU	CDB	MB
Kristy A. Brown	kab2060@MED.CORNELL.EDU	CDB	
Jason Butler (Adjunct)	jmb2009@MED.CORNELL.EDU	CDB	
Lewis Cantley	lec2014@MED.CORNELL.EDU	BSB	
Ethel Cesarman	ecesarm@MED.CORNELL.EDU	IMP	CDB
Raju Chaganti	chagantr@MSKCC.ORG	CDB	
Timothy Chan	chant@MSKCC.ORG	CDB	
Sarat Chandarlapaty	chandars@MSKCC.ORG	CDB	
Rohit Chandwani	roc9045@MED.CORNELL.EDU	MB	
Shuibing Chen	shc2034@MED.CORNELL.EDU	CDB	
Yu Chen	cheny1@MSKCC.ORG	CDB	
Emily Cheng	chenge1@MSKCC.ORG	CDB	
Ping Chi	chip@MSKCC.ORG	CDB	
Chitra Dahia	DahiaC@HSS.EDU	CDB	
Kirk Deitsch	kwd2001@MED.CORNELL.EDU	MB	

Noah Dephoure	nod2007@MED.CORNELL.EDU	BSB	
Jeremy Dittman	jed2019@MED.CORNELL.EDU	BSB	PBSB
Lukas Dow	lud2005@MED.CORNELL.EDU	CDB	
Nancy Du	nad2012@MED.CORNELL.EDU	CDB	
David Eliezer	dae2005@MED.CORNELL.EDU	BSB	
Todd Evans	tre2003@MED.CORNELL.EDU	CDB	PBSB
Erik Falck-Pedersen	efalckp@MED.CORNELL.EDU	MB	
Lydia Finley	finleyl@MSKCC.ORG	CDB	
Emily Foley	foleye1@MSKCC.ORG	CDB	
Hironori Funabiki	funabih@ROCKEFELLER.EDU	CDB	
Michael Glickman	glickmam@MSKCC.ORG	IMP	MB
Jonathan Goldberg	jonathan@XIMPACT4.SKI.MSKCC.ORG	BSB	
Mary Goldring	goldringm@HSS.EDU	CDB	
Matthew Greenblatt	mag3003@MED.CORNELL.EDU	CDB	
Steven Gross	ssgross@MED.CORNELL.EDU	PHAR	BSB
Lorraine Gudas	ljgudas@MED.CORNELL.EDU	PHAR	MB
Anna-Katerina Hadjantonakis	hadj@MSKCC.ORG	CDB	
David Hajjar	dphajjar@MED.CORNELL.EDU	BSB	
Katherine Hajjar	khajjar@MED.CORNELL.EDU	CDB	PBSB
Richard Hite	hiter@MSKCC.ORG	BSB	PBSB
William Holloman	wkhollo@MED.CORNELL.EDU	MB	
Yariv Houvras	yhouvras@MED.CORNELL.EDU	CDB	
Danwei Huangfu	huangfud@MSKCC.ORG	CDB	
Jerard Hurwitz	j-hurwitz@SKI.MSKCC.ORG	MB	BSB
Morgan Huse	husem@MSKCC.ORG	IMP	BSB
Christine Iacobuzio-Donahue	iacobuzc@MSKCC.ORG	CDB	
Andrew Intlekofer	intlekoa@MSKCC.ORG	CDB	

Prasad Jallepalli	jallepap@MSKCC.ORG	MB	
Maria Jasin	m-jasin@SKI.MSKCC.ORG	CDB	
Xuejun Jiang	jiangx@MSKCC.ORG	CDB	
Alexandra Joyner	joynera@MSKCC.ORG	CDB	NEU
Bjorn Kafsack	bjk2007@MED.CORNELL.EDU	MB	
Scott Keeney	s-keeney@SKI.MSKCC.ORG	MB	BSB
Thomas Kelly	tkelly@MSKCC.ORG	MB	BSB
Kayvan Keshari	rahimikk@MSKCC.ORG	BSB	PBSB
Kitai Kim	kimk@MSKCC.ORG	CDB	
Andrew Koff	a-koff@SKI.MSKCC.ORG	MB	
Richard Kolesnick	r-kolesnick@SKI.MSKCC.ORG	PHAR	BSB
Elizabeth Lacy	e-lacy@SKI.MSKCC.ORG	CDB	
Eric Lai	laie@MSKCC.ORG	CDB	
Ann-Hwee Lee	anl2042@MED.CORNELL.EDU	BSB	
Ross Levine Joshua	leviner@MSKCC.ORG	CDB	
Levitz Christopher	jtl2003@MED.CORNELL.EDU	BSB	PBSB
Lima Piro Lito	limac@MSKCC.ORG	BSB	
Stephen Long	litop@MSKCC.ORG	CDB	
Annarita Di Lorenzo	longs@MSKCC.ORG	BSB	PBSB
Scott Lowe	and2039@MED.CORNELL.EDU	CDB	
Neal Lue	lowes@MSKCC.ORG	CDB	
David Lyden	nflue@MED.CORNELL.EDU	MB	
John Maciejowski	dcl2001@MED.CORNELL.EDU	CDB	
Kenneth Marians	maciejoj@MSKCC.ORG	MB	
Joan Massague	kmarians@SLOANKETTERING.EDU	MB	BSB
Frederick Maxfield	j-massague@SKI.MSKCC.ORG	CDB	
Christine Mayr	frmaxfie@MED.CORNELL.EDU	BSB	
Timothy McGraw	mayrc@MSKCC.ORG	CDB	
	temcgraw@MED.CORNELL.EDU	BSB	

Anant Menon	akm2003@MED.CORNELL.EDU	BSB	
Vivek Mittal	vim2010@MED.CORNELL.EDU	CDB	
Carl Nathan	cnathan@MED.CORNELL.EDU	IMP	MB
Philipp Niethammer	niethamp@MSKCC.ORG	CDB	
Dimitar Nikolov	NikolovD@MSKCC.ORG	BSB	NEU
Michael Overholtzer	overhom1@MSKCC.ORG	CDB	
Jihye Paik	jep2025@MED.CORNELL.EDU	CDB	
Luis Parada	paradal@MSKCC.ORG	CDB	
Kyung-Hyun Park-Min	ParkminK@HSS.EDU	IMP	CDB
Dinshaw Patel	pateld@MSKCC.ORG	BSB	
Nikola Pavletich	pavletin@MSKCC.ORG	BSB	
Alexandros Pertsinidis	PertsinA@MSKCC.ORG	BSB	
John Petrini	petrinij@MSKCC.ORG	MB	
Gregory Petsko	gpetsko@MED.CORNELL.EDU	BSB	NEU
Elena Piskounova	Elp2025@MED.CORNELL.EDU	BSB	
Simon Powell	powells@MSKCC.ORG	MB	
Mark Ptashne	m-ptashne@SKI.MSKCC.ORG	MB	
Xiaohui Qu	qux@MSKCC.ORG	MB	
Shahin Rafii	srafii@MED.CORNELL.EDU	PBSB	CDB
Dirk Remus	remusd@MSKCC.ORG	MB	
Marilyn Resh	m-resh@SKI.MSKCC.ORG	CDB	BSB
David Rickman	dsr2005@MED.CORNELL.EDU	CDB	
Enrique Rodriguez-Boulan	boulan@MED.CORNELL.EDU	CDB	NEU
Inez Rogatsky	rogatskyi@HSS.EDU	IMP	MB
Neal Rosen	rosenn@MSKCC.ORG	PHAR	CDB
Mark Rubin	rubinma@MED.CORNELL.EDU	CDB	
Urs Rutishauser Timothy	u-rutishauser@SKI.MSKCC.ORG	CDB	
Ryan Charles Sawyers	taryan@MED.CORNELL.EDU	BSB	
	sawyersc@MSKCC.ORG	CDB	

Dirk Schnappinger	dis2003@MED.CORNELL.EDU	MB	
Beate Schwer	bschwer@MED.CORNELL.EDU	MB	
Marco Seandel	mas9066@MED.CORNELL.EDU	CDB	
Renat Shaykhiev	res2003@MED.CORNELL.EDU	CDB	
Wen Shen	wes2007@MED.CORNELL.EDU	CDB	
Songhai Shi	shis@MSKCC.ORG	CDB	
Stewart Shuman	s-shuman@SKI.MSKCC.ORG	MB	BSB
David Solit	solitd@MSKCC.ORG	CDB	
Heidi Stuhlmann	hes2011@MED.CORNELL.EDU	CDB	PBSB
Ching-Hwa Sung	chsung@MED.CORNELL.EDU	NEU	CDB
Tuomas Tammela	tammelat@MSKCC.ORG	CDB	
Paul Tempst	p-tempst@SKI.MSKCC.ORG	MB	BSB
Craig Thompson	thompsonc@MSKCC.ORG	CDB	IMP
M. Bryan Tsou	tsoum@MSKCC.ORG	CDB	
Jessica Tyler	jet2021@MED.CORNELL.EDU	MB	
Andrea Ventura	venturaa@MSKCC.ORG	CDB	CB
John Wagner	jawagne@MED.CORNELL.EDU	NEU	CDB
Baolin Wang	baw2001@MED.CORNELL.EDU	MB	
Hans-Guido Wendel	wendelh@MSKCC.ORG	CDB	
Richard White	whiter@MSKCC.ORG	CDB	PBSB
Iestyn Whitehouse	whitehoi@MSKCC.ORG	MB	
Jennifer Zallen	zallenj@MSKCC.ORG	CDB	
Baohong Zhao	ZhaoB@HSS.EDU	CDB	
Xiaolan Zhao	zhaox1@MSKCC.ORG	MB	
Pengbo Zhou	pez2001@MED.CORNELL.EDU	MB	

Weill Cornell Graduate School of Medical Sciences

BCMB Biochemistry Core Course (2018 Fall Semester)

Course directors: Paul Tempst and Andrew Koff

Lectures will be held on Mon, Wed and Fri from 10:30 AM to 12 PM

Module				Topic	Faculty	Location
I	1	29-Aug	W	Statistical Mechanics of Biomolecules I	John Chodera	RRL-103
6	2	31-Aug	F	Statistical Mechanics of Biomolecules II	John Chodera	RRL-103
		3-Sep	M	Labor Day		
	3	5-Sep	W	Physical principles that govern chemical reactions	Timothy Ryan	BB 204-A
	4	7-Sep	F	Ligand Binding	Kenneth Marians	RRL-117
		10-Sep	M	no class		
	5	12-Sep	W	Enzymes: Why do they work?	Christopher Lima	RRL-103
	6	14-Sep	F	Reaction mechanisms: PYMOL exercise	Christopher Lima	RRL-B20
II	7	17-Sep	M	Protein folding. Non-covalent forces	David Eliezer	RRL-B22
4		19-Sep	W	no class		
	8	21-Sep	F	Protein-protein interactions	Jonathan Goldberg	RRL-117
	9	24-Sep	M	Protein-nucleic acid interactions	Dinshaw Patel	RRL-103
	10	26-Sep	W	PTM mediated signaling	Andrew Koff	RRL-B20
		28-Sep	F	BCMB retreat		
III	11	1-Oct	M	Protein purification I	Stewart Shuman	RRL-103
6	12	3-Oct	W	Protein purification II	Stewart Shuman	BB 204-C
	13	5-Oct	F	Mass spectrometry of polypeptides	Paul Tempst	WGC-A
	14	8-Oct	M	Proteomics	Noah Dephoure	BB 204-A
	15	10-Oct	W	Genomic tools and data analysis I	Iestyn Whitehouse	BB 204-A
	16	12-Oct	F	Genomic tools and data analysis II	Iestyn Whitehouse	BB 204-C
IV	17	15-Oct	M	X-Ray crystallography	Stephen Long	RRL-B22
3	18	17-Oct	W	Cryo-EM	Richard Hite	BB 204-C
	19	19-Oct	F	Fluorescence-based technologies	Morgan Huse	RRL-103
V	20	22-Oct	M	The logic of metabolism	Gregory Petsko	BB 204-A
5	21	24-Oct	W	How to understand a metabolic pathway?	Gregory Petsko	RRL-B20
	22	26-Oct	F	Biochemistry of lipids and membranes	Marilyn Resh	RRL-103
	23	29-Oct	M	Ion Channels	Crina Nimigean	RRL-117
	24	31-Oct	W	Metabolomics and metabolite profiling	Steven Gross	RRL-103

24 total

RRL: Rockefeller Research Laboratories (430 East 67 St)
Belfer Research Building (413 E 69th St, New York, NY 10021

MOLECULAR GENETICS Course FALL 2018

All classes are Tue/Thurs 10-11:30AM

TA sessions on Wed. 5:30-6:30pm and then 6:30-7:30pm, at RRL914 (9th FL Conference room). Sign up for each session.

Directors: Huangfu, Danwei <HuangfuD@mskcc.org> tel 212-639-5239; Xiaolan Zhao <zhaox1@mskcc.org> tel 212-639-5582

TAs: Jiaqi Xu jix2010@med.cornell.edu
Gina Tomarchio git2009@med.cornell.edu
Mitchell Martin mim2076@med.cornell.edu
Inbal Caspi inbalcaspi@gmail.com

		Topic	Faculty	Room	Discussion Sections
1	8/30/18	Genome modification-1	Maria Jasin	Z-104	
2	9/4/18	Genome modification-2 & Genetic concepts	Danwei Huangfu	Z-104	#1 lecture 1 &2 on 9/5
3	9/6/18	Bacterial genetics	Mike Glickman	Z-104	
4	9/11/18	Meiotic recombination	Scott Keeney	Z-104	#2 lecture 3&4 on 9/12
5	9/13/18	Yeast genetics-1	Xiaolan Zhao	Z-104	
6	9/18/18	Yeast genetics-2	Xiaolan Zhao	Z-104	#3 lecture 5&6 on 9/19
7	9/20/18	Drosophila genetics-1	Jen Zallen	Z-104	
8	9/25/18	Drosophila genetics -2	Mary Baylies	Z-104	#4 lecture 7&8 on 9/26
	9/27/18	Retreat			
9	10/2/18	RNAi & microRNAs	Eric Lai	Z-104	
10	10/4/18	Mouse genetics-1	Kat Hadjantonakis	Z-104	#5 lecture 9&10 on 10/10
11	10/9/18	Mouse genetics-2	Alex Joyner	Z-104	
12	10/11/18	Mouse genetics-3	Alex Joyner	Z-104	#6 lecture 11&12 on 10/17
13	10/16/18	Zebrafish genetics	Richard White	Z-104	
14	10/18/18	C. elegans genetics	Zhirong Bao	Z-104	#7 lecture 13&14 on 10/19*
15	10/23/18	Cancer genetics	Andrea Ventura	Z-104	#8 Lecture 15 and prep for Class presentation 10/24
16	10/25/18	Discussion Genetic concepts/Approches-1	TAs and directors	Z-104	
17	10/30/18	Discussion Genetic concepts/Approches-2	TAs and directors	Z-104	

Exam send out: Nov 1st due back in for grading Nov 8th

Lab Rotation Research Progress Report

BCMB Allied Graduate Program

Rotation Period: ◯ **Summer** ◯ **Fall** ◯ **Winter** ◯ **Spring**

Project Title:

Student's Name: _____

Lab Rotation Mentor: _____

Signature: _____

1st Year Advisor: _____

Signature: _____