

**BIG PRELIMINARY QUALIFYING
EXAMINATION GUIDELINES**
(Academic Year 2019-2020)

THE GOAL

The primary goal of the Preliminary Qualifying Examination (PQE) is to ensure that you have achieved a high standard of scientific scholarship and skills that are critical for successful completion of your Ph.D. thesis and beyond. In addition to assessing your foundation in genome sciences, computational methods, and statistical analysis, the PQE will test your competence in:

- Functional genomics
- Basic molecular biology techniques
- High throughput sequence measurement and analysis
- Population genetics

PROCEDURAL ISSUES

You are required to take the PQE before May of your G2 year.

PQE Application Form (due to BIG Program Office 6 weeks before exam period)

- 1) Identify potential exam committee members and an exam chair from the core and affiliate faculty list here and below: (<http://www.hms.harvard.edu/dms/BIG/fac/index.html>) Final selection of examiners will be at the discretion of the BIG Program Office.
- 2) Once the BIG Program Office receives the PQE Application Form, an exam chair from the PQE Committee will be confirmed. You are responsible for scheduling your oral exam. Before the committee is formed, inform the BIG office if there are faculty members that you know or believe should be excluded because of a conflict of interest.

Role of the PQE Steering Committee Chair

The Chair of the PQE Steering Committee, Isaac Kohane, M.D., Ph.D., is available to answer questions, clarify expectations, and provide guidance at any point during the exam preparation process.

Role of Examination Committee Chair

PQE chairs are experienced examiners and are responsible for keeping the exam on course and ensuring that examiners pursue an appropriate line of questions. The PQE chair is responsible for creation of the examination.

Core and Affiliate BIG faculty members. Eligible exam chairs are in bold.

Martin Aryee
Paul Avillach
Michael Baym
Bonnie Berger
Rameen Beroukhim
Jason Buenrostro
Martha Bulyk
Scott Carter
Christopher Cassa
George Church
Stirling Churchman
Mark Daly
Stephen Elledge
Maha Farhat
Jason Flannick
Nils Gehlenborg
Gad Getz
Todd Golub
Jesse Gray
Robert Green
James Gusella
Alexander Gusev
Steven Gygi
Nir Hacohen
Kevin Haigis
Joel Hirschhorn
Rafael Irizarry
Peter Kharchenko
Zak Kohane
Aleksandar Kostic
Eric Lander
E. Alice Lee
Heng Li
Xiaole (Shirley) Liu
Po-Ru Loh
Daniel MacArthur
Faisal Mahmood
Debora Marks
Matthew Meyerson
Miles Miller
Leonid Mirny
Vamsi Mootha
Cynthia Morton
Benjamin Neale

Martin Nowak
Peter Park
Chirag Patel
Luca Pinello
Alkes Price
Soumya Raychaudhuri
Pardis Sabeti
Chris Sander
Ayellet Segre
Christine Seidman
Jonathan Seidman
Edwin Silverman
Meromit Singer
Peter Sorger
Kimberly Stegmaier
Shamil Sunyaev
Peter Szolovits
Michael Talkowski
Eliezer Van Allen
Ulrich von Andrian
Christopher A. Walsh
Scott Weiss
Timothy Yu
Cheng-Zhong Zhang

ORAL EXAM

At the beginning of a week, the student will be provided a set of questions that typically require extensive reading and computation. A week later, the student will meet with the committee who will hear a formal presentation of the student's response to the questions. The examiners will then ask questions related to the student's presentation as well as on any material that the student is expected to have mastered in his/her coursework. The exam will last approximately two hours.

Input/Advice

Students are not allowed to consult with anyone other than the program director and exam chair about the exam.

THE OUTCOMES

You will be informed of the outcome (pass, conditional pass, or fail) at the end of the exam (see below). Within 1 week and in rare cases 2 weeks, a written evaluation will be provided.

- **Pass.** No further work on the PQE will be required.
- **Conditional.** A student will receive a conditional pass if the committee feels that he/she would benefit from additional preparation or work. The conditions for changing the grade to "pass" will be determined by the exam committee. If possible, these recommendations will be given to the student at the end of the exam, but may be provided at a later date. The plan will be noted in the evaluation form, along with the expected time frame for when the condition may be satisfied. It may be helpful for the student and the chair to communicate by email shortly after the exam in order to make sure that it is clear what the student will be expected to do.
- **Fail.** A student will receive a fail if there are serious concerns based on the oral exam. In this case, a follow-up meeting with the exam chair, PQE committee chair, program head, program advisor, and thesis advisor will be scheduled. After this meeting, a set of recommendations will be made to address the identified issues. The student will be given the opportunity to retake the oral exam following completion of the recommended work.
- **Feedback.** In addition to determining the outcome of the exam, examiners will be asked to provide students with short comments on their strengths and weaknesses.

THE NEXT STEP

After passing the PQE, you will assemble a Dissertation Advisory Committee (DAC). This meeting should happen within 3-4 months after passing the PQE.



Preliminary Qualifying Exam Application Form

Student Name _____

Suggestions for Committee Members:

Proposed Chair(s) _____ or _____

Proposed Examiners _____

Faculty that should not be used [please indicate reason (collaborator/competitor/etc.)]:

