



**Harvard Scholars in Non-Malignant Hematology
APPLICATION FOR K12 for 2010**

Applicant information

Name _____
First Last M.I.

Degree(s): _____

US Citizen? Yes No If No, Permanent Resident Status? Yes No

Home Address _____
Street City, State, ZIP

Home Phone # () _____ Email Address _____

Current Institution _____

Current Academic Rank: 3rd yr fellow Instructor Asst. Professor Other (explain)

Demographic information (required for federally funded career development awards).

Gender: Male Female

Race (check all that apply):

- Caucasian Black/African American American Indian or Alaska Native
 Asian/Pacific Islander American Indian or Alaska Native Other _____

Ethnicity:

Hispanic—yes no

Other _____

Division Chief or Program Director who will provide letter of support.

In a letter which may be included in the body of the application, the Chief or Program Director must attest to his/her/their support of the application, and must explicitly state that clinical duties during the two year training period will be limited, and will only be in fields related to non-malignant hematology. See instructions for definitions. The letter should state that 75% effort is available for the training program. Depending upon the rank and institutional affiliation of the applicant, this letter might reasonably be co-signed by more than one supervisor or chief. Letters in support of Assistant Professor applicants must be signed by the Division Chief. Letters in support of Fellow applicants must be signed by the training program director. The letter should describe the candidate's potential for future leadership in non-malignant hematology research.

Name _____
Title _____
Institution _____
Mailstop/Address _____

Phone _____
Fax _____
Email _____

Name 2 (optional) _____
Title _____
Institution _____
Mailstop/Address _____

Phone _____
Fax _____
Email _____

Letters of Reference

Please provide **two** letters of reference, including at least one from a faculty member (at a Harvard member institution or elsewhere) with whom you have worked in some significant capacity. Please see instructions. These letters should be confidential (sent directly to the program office or in a sealed envelope signed across the seal). Letters should arrive by the due dates (see instructions).

Referee #1 _____
Phone _____
Email _____

Referee #2 _____
Phone _____
Email _____

Proposed Primary Mentor (see Mentor list and instructions)

Name _____ Site _____

Phone # () _____ E-mail address _____

Statement from proposed primary mentor is attached (see instructions #7).

Research Proposal

Title _____

Three page synopsis attached. (see instructions #6. Bibliography not included in 3 page limit)

Statement on concurrent application for other Career Development Grants

Please choose one of the following two options. Please note the special obligation imposed on candidates with a concurrent grant. See instructions for more details.

I have a pending application (or plan to apply in Feb. or June, 2010) for an individual NIH Career Development Award (e.g. K01, K07, K08, K23), or an equivalent award. I understand that if I am chosen for the K12 program AND the other application is funded, I will be expected to relinquish the K12 funding when the other award starts. I also understand that I am encouraged to complete both the formal training and the informal curricular activities of the K12 program to the extent these don't interfere with my K23 career development plan (see instructions #3).

OR

I am NOT currently applying for other individual career development awards (through June, 2010).

Candidate's Personal Statement of Career Goals

One page statement of short and long-term goals attached. See instructions #4.

Candidate's Career Plan/Proposed Timeline

One page statement attached. See instructions #5.

Candidate's NIH 4-Page Biosketch with bibliography and other support

Attached. (Use standard NIH form and format.)

Candidate's Signature

_____ / /
Date

Contact information:

Please contact program coordinator Meghan Sullivan, or program director Ellis J. Neufeld MD, PhD, for questions about the application process, 617-919-2139.

INSTRUCTIONS AND INFORMATION FOR K12 Application

APPLICATION DEADLINE: March 1st, 2010

Start dates: June 1, 2010 (earliest) – October 1, 2010 (latest)

Dear Prospective K12 Scholar,

Thank you for applying to the Harvard K12 Scholars Program for Non-Malignant Hematology. This novel training program, sponsored by the National Heart, Lung, and Blood Institute of the NIH, is aimed at young physicians interested in training for research careers in *patient-oriented research*. The goal of the K12 program is to train future leaders in non-malignant hematology by providing a curriculum of advanced training in clinical hematology, formal didactic training in patient-oriented research methodology, and an intensive, mentored research experience.

The curriculum was developed in the fall of 2006. Because Scholars come from diverse backgrounds, and have a variety of prior training experiences, the curriculum for each scholar is individualized. All scholars participate in a basic or translational science lab meeting or journal club, as appropriate. All participate in the K12 colloquium series with a focus on key citations from the literature, with tutorial-style review with each speaker. The American Society of Hematology Self Assessment Program (SAP) is also available as a learning tool.

The Harvard Medical Area offers four distinct Masters programs in clinical research, as well as non-degree advanced training for scholars who have already obtained Masters degrees in the field. Formal training for each scholar will be designed on an individualized basis, and the Harvard Scholars program offers a monthly colloquium series on patient-oriented research in non-malignant hematology.

K12 grants are generally two-year (and in some special cases, three-year) NIH career development awards given through institutions. This Harvard-wide project in hematology is a consortium of all of the hematology and transfusion medicine training programs from the Harvard teaching hospitals. The project office is based at Children's Hospital, Boston. Each hospital has a site director, and membership on the advisory committee (which also serves as the admissions committee) and the curriculum committee. Please see details at <http://www.BloodScholars.org>. More than 50 prospective mentors (listed on pages 7-9 of this application) for patient-oriented research are available among the several member hospitals and the medical school.

The successful scholar applicants will be chosen on the basis of:

1. Demonstrated excellence in intellectual capability and past performance;
2. Motivation and future potential for leadership in Non-Malignant Hematology Research;
3. Quality of the proposed research program.

FUNDING INFORMATION:

Scholars will receive salary commensurate with academic rank at their appointing institution, up to \$75,000 per year for two years (and in some cases, up to three years), plus fringe benefits. Indirect costs of 8% are allowed on NIH K grants. Scholars must spend at least 75% effort on the project and related didactic activities. In addition, \$30,000 per year is available to each candidate to support the training program. These funds are to be used at the discretion of the scholar. It is anticipated that expenses will include tuition for formal training programs, travel to national meetings relevant to the scholar's research, and can also be used to pay direct costs of the research program.

Mentors will receive \$7,500 salary support, up to 5% effort, plus funds to travel to one all-grantee meeting per year in the Washington DC area. Mentor salary support is a unique feature of this non-malignant K12 program.

DEFINITIONS

"Non-Malignant Hematology"

For the purposes of this training program, this term is broadly construed to include:

- Hematopoiesis and hematopoietic stem cell biology
- Disorders of red cells, neutrophils, and platelets
- Hematopoietic stem cell transplantation (excluding, as projects, transplants solely for malignant disorders)
- Myelodysplastic and myeloproliferative disorders (including CML and pre-malignant states)
- Transfusion Medicine (adult, pediatric, or both)
- Hemostasis and/or Thrombosis

“Patient-Oriented Research”

For the purposes of this program, the definition is essentially the same as that applied for K23 grants. Conventionally, NHLBI has suggested the “handshake test” in which researchers should need to shake hands with a patient at some point during the course of their project. However, this test is not the sole means of determining eligible projects, and the term “patient-oriented” should not be taken to mean only clinical trials research. Other acceptable disciplines might or might not include hands-on patient care:

- Studies of mechanisms of disease (“bedside-to-bench” research)
- Pre-clinical studies of disease treatment strategies
- Outcomes research and epidemiology
- Psychology studies related to compliance with therapy
- Interventional studies aimed at health systems or physicians, rather than individual patients

Please address any questions about these definitions, and their implications for your specific training, to program director Dr. Neufeld (ellis.neufeld@childrens.harvard.edu; tel 617-919-2139).

APPLICATION PROCESS:

Please use this checklist to be sure you have provided all necessary information for the application. **Font must be 11 points or larger, with at least ½ inch margins.** Type must not exceed 6 lines per inch. Single-sided applications only and **please do not staple** as we will disassemble them for copying.

- Completed application form, 2 pages
- Current NIH Biosketch, including current and/or pending grant support (if any), and bibliography
- Two letters of recommendation – sent directly to the program office by the writers (fax 617-730-0934, attention Meghan Sullivan, K12 program coordinator), or delivered in sealed envelopes, signed across the seal, to Attn. Meghan Sullivan, Karp 8, Children’s Hospital, 300 Longwood Ave, Boston, MA, 02115.
- Letter from Division Chief and/or Program Director, which can be attached to this application (see instruction in the application form).
- Candidate’s personal statement (one page, see instruction # 4 below)
- Proposed timeline/career path (one page maximum, see instruction #5 below)
- Proposed research plan (two pages, see instruction #6 below).
- Letter of support from the proposed primary mentor, chosen from the list of K12 mentors in the attached document (See instruction #7 below). This should be included in the body of the application.

1. Qualifications.

A. Candidates must hold an MD, MD-PhD, DO, or doctoral degree in a related discipline. For this NIH-funded program, US Citizenship or Permanent Resident status (“Green Card”) is required.

B. Prior training: Whereas most potential candidates will have had clinical training in Hematology, Pediatric Hematology/Oncology, or Transfusion Medicine, Clinician-Scientists in related disciplines who are interested in careers in the area of non-malignant hematology (see above) are encouraged to apply.

C. Academic Rank between third-year fellow and first-year assistant professor at time of entry into the program.

D. Ability to devote 75% effort (overall) to the program over two years. This effort must include a mentored project in **patient-oriented (as defined above) or health services research** starting in the first year and continuing for the second, and may include a masters’ program or equivalent advanced research training starting in the first year. In the remainder of their time, candidates may continue their clinical or teaching responsibilities. Please note that an explicit requirement is that a fellow’s associated clinical activities may not be in general oncology or general cardiology, and must be directly related to non-malignant hematology (broadly construed to include hematopoietic stem cell transplantation, myelodysplastic or myeloproliferative disorders, hemostasis and/or thrombosis, transfusion medicine, and/or pediatric or adult hematology). This must be attested to in the support letter from the Program Director or Division Chief.

2. Dates of Matriculation and application due dates.

We expect that one scholar will start sometime between June and October of 2010. Applications for this slot must be received by **March 1st, 2010**. Candidates not chosen for prior slots will automatically be considered for later slots. While an additional application is not required, updated biosketches, CV’s, etc., may be submitted for review.

3. Concurrent K01, K23, K08 applications.

Please state on the application form if you have already applied, or plan to apply by July 2010, for an individual career development award (“K grant”). The Admissions committee assumes that if you are in this position, you are likely to opt for the longer, individual grant, if funded, when its funding period starts. Because the K12 application has a very short lead time this year, and K23 (and related grants) have very long lead times of a year or more, taking into account possible need for revisions, many candidates in this position will be able to complete some or all of the K12 program by the time the individual grant is scheduled to begin. *The Advisory Committee requires that candidates in this circumstance declare their willingness to continue to participate in hematology training aspects of this program after their individual training grant begins.* Please contact program director Dr. Neufeld if you have questions about this requirement.

Note that NIH rules limit total K training grant career development support to 6 years. Thus, a two-year K12 recipient can receive at most a four year K23. The K12 hematology program directors from around the country believe that this will not be a significant hindrance to career development.

4. Candidate’s Personal Statement of Career Goals.

Please provide a one-page summary of your short- and long-term goals, with particular reference to how enrollment in the K12 program will foster your development. This statement will not only be helpful in admission decisions, but will also help guide selection of secondary mentors (based on specific goals), by the candidate in conjunction with the advisory committee.

5. Individualized Career Plan/Proposed Timeline for Career Progress.

Please provide a rough timeline of proposed clinical research and career progression. Elements should include anticipated publications, plans to apply for a K23 or similar next-stage grant, quest for faculty position, potential promotions to the next level. Also, please include a plan for formal training in patient-oriented research (examples include (a) taking the non-degree Program in Clinical Effectiveness at HSPH, or (b) attaining an MPH in an appropriate discipline, such as trials design, epidemiology, or outcomes assessment; these are not the only possibilities). The Advisory Committee understands that such career plans are only approximations, and by necessity would need to be evaluated and revised periodically by any applicant with his/her mentors. For successful candidates, revisions will be formally submitted to the Advisory Committee annually, even after graduation from the program, to assess progress.

6. Proposed Research Plan (3 pages maximum, not including bibliography).

Please provide the specific aims, a **paragraph** of background information and significance, and brief outline of the research plan. For K12 applicants, significant amounts of preliminary data are not required. Concurrent K08 or K23 applicants should take into account the relatively short timeline for the K12, and consider using only a subset of the aims from the longer career development grant. As with any grant application, candidates are encouraged to consider sample size, feasibility, methods, and anticipated results/potential pitfalls.

7. Primary Mentor Letter of Support.

Each successful K12 scholar applicant will have two mentors for his/her training period. The primary mentor will supervise the research discussed in the research plan, see above. The primary mentor should be chosen by the applicant from among the K12 program faculty of more than 50 individuals (see attachment). This primary mentor should provide a letter of support, indicating willingness to serve, detailing interactions with the scholar (frequency of meetings, availability of journal clubs and other training seminars in his/her own institution or program), and discussion of the significance of the proposed research project. The Admissions Committee anticipates that primary mentors will have been included in critical review of the candidate’s proposal, with an eye toward *feasibility*, as well as general considerations of sample size (where applicable) and basic grantsmanship.

The secondary mentor will be chosen by the advisory committee and the candidate together, and will come from a field of study complementary to the primary mentor’s field. Both mentors will receive up to 5% salary support unless this is precluded by their own employment status (for example, HHMI investigators may be so precluded).

Program Mentors, Hematology K12 Program, *Site Directors

Home Institution (# of faculty)	Mentor Name	Program Area as related to the themes covered in the K12 project	Key Joint Appointments	Didactic Role and Lecture Topics for the clinical curriculum series: (C) clinical core curriculum; (P) patient-oriented research curriculum; (L) laboratory-based studies of blood and marrow
BIDMC (9)	Alper, Seth, MD, PhD	Other: Membrane Transporters		L: Membrane transport in red cells
	*Bauer, Kenneth, MD	Thrombosis	VA	C: Thrombophilia; anticoagulants; evaluation of bleeding patients. P: anticoagulation trials
	Carpenter, Christopher, MD, PhD	Other: Signaling		L: PI signaling pathways in hematopoiesis
	Drews, Reed, MD	Anemia		C: Anemia of the elderly and geriatric hematology.
	Furie, Bruce, MD	Hemostasis		C: Mechanisms of hemostasis – clots in vivo, vitamin K disorders
	Furie, Barbara, PhD	Hemostasis		C, L: Mechanisms of hemostasis – clotting factor biology
	Nicholson-Weller, Anne, MD	Other: Complement and Cytokines		L: Hematological aspects of complement
	Tenen, Daniel, MD	Myeloid Differentiation		C, L: Myeloid development; disorders of granulopoiesis
	Weller, Peter, MD	Eosinophil Biology		L: Biology of eosinophil function
BWH (15)	*Berliner, Nancy, MD	Anemia	DFCI	L: Myeloid differentiation, P: Anemia of the elderly
	Bunn, H Frank, MD	Hemoglobin/Hemoglobinopathies		C: Hemoglobin and hemoglobinopathies; approach to anemias
	Cunningham, James, MD	General Hematology and Virology		L: Nitric oxide production and hematology of viral infections
	Ebert, Benjamin, MD, PhD	MDS, Fetal hemoglobin induction	Broad Institute	L,P: Fever involved in MDS; Mechanisms of fetal Hb induction
	Edelman, Elazer, MD, PhD	Other: Drug delivery and Angiogenesis		L: Extracellular matrix and vascular biology
	Gilbert, Gary, MD (And VA)	Hemostasis		C, L Factor VIII biology
	Golan, David, MD, PhD	Pharmacology; Sickle Cell Disease	DFCI, HMS	L: Pharmacology P: Pharmacologic approaches to sickle cell disease
	Goldhaber, Samuel, MD	Venous Thrombo-embolism		C, P: Venous thrombosis, pulmonary embolism, prevention, diagnosis and treatment
	Italiano, Joseph, MD	Thrombopoiesis		L: Platelet morphogenesis. megalcytebiology
	Kwiatkowski, David, MD, PhD	Genetic/Genomic Approaches	DFCI	C, P, L: Genomics approaches to hematology disorders
	McCaffrey, Ronald, MD	Clinical Trials Hematology	DFCI	P: Clinical trials in sickle cell disease and platelet disorders C: Clinical hematology
	Serhan, Charles, PhD	White Cells and Inflammation		C,L: Role of leukotrienes and prostanoids in blood diseases
	Sharpe, Arlene,	Other: Immunology		L: Antigen-presenting cells
	Stossel, Thomas, MD	Platelets; Translational Approaches		C: Disorders of leukocyte function P,L: Translational research in platelet storage

	Weeks, Jane, MD	Outcomes Research	DFCI	P: Outcomes research
IDI (3)	Lieberman, Judy MD, PhD	RNAi; Gene Expression	DFCI	L: Role of RNAi in disease. C: Hematologic aspects of HIV
	Remold - O'Donnell, Eileen, PhD	Macrophage Biology		L: Wiscott Aldrich Syndrome and macrophage biology
	*Silberstein, Leslie, MD	Transfusion Medicine and Cell-based Therapies	CHB, Harvard Jt. Prog in Transf Medicine	C: Topics in transfusion medicine L: Stem cell properties
CHB (12)	Brugnara, Carlo, MD	Sickle Cell Disease; Clinical Laboratory Hematology		C: Clinical laboratory hematology P,L: Membrane transport modulators in sickle cell disease: Mg, Gardos channel inhibitors
	Cantor, Alan, MD, PhD	Megakaryocytes	DFCI	C: Pediatric hematology, marrow failure; L: normal and abnormal megakaryopoiesis
	Daley, George, MD, PhD	Stem Cells; Disease Models	Harvard Stem Cell Institute	L: Models of hematologic disease in embryonic stem cells
	Fleming, Mark, MD, DPHIL	Disorders of Iron Metabolism; Disease Models	Heme path BWH, DFCI	C: Hematopathology. L: studies of disordered iron metabolism, iron deficiency and vitamin-deficiency anemias.
	Golub, Todd, MD	Genomics	DFCI	P,L: Genomic approaches to non-malignant blood disease and disease modifiers
	Kalish, Leslie, ScD	Biostatistics; Career Development	HSPH	P: Clinical trials and study design
	Lux, Samuel, MD	Red Cells		C,L: Disorders of red cell membranes. Pediatric Hematology; hereditary spherocytosis and related disorders. Enzymopathies
	Michelson, Alan, MD	Platelet Functions Studies		C, P: Platelet functions studies
	Nathan, David G, MD	Anemias; Hemoglobinopathies	DFCI	C,P: Thalassemias, aplastic anemia, sickle cell disease, general pediatric hematology
	*Neufeld, Ellis, MD, PhD	Hemophilia; Thalassemia; Pediatric Thrombosis	BWH, DFCI	C: General pediatric hematology. Hemophilia, thalassemia, pediatric thrombosis. P: clinical trials in pediatric hematology. L: vitamin transport in blood disorders
	Williams, David, MD	Bone Marrow Failure, Gene Therapy	DFCI	P: Gene therapy, bone marrow failure L: Hematopoiesis
	Zon, Lenard, MD	Stem Cells	Harvard Stem Cell Institute	L: Zebrafish studies in relation to human blood disease; stem cells
DFCI (7)	Antin, Joseph, MD	Transplantation	BWH	C, P: Bone marrow transplantation
	*Benz, Edward, MD	Red Cells	BWH	C,L: Red cells – normal and abnormal physiology
	De Angelo, Daniel, MD, PhD	MDS and MPD		C,P: clinical aspects and clinical trials in MPD and MDS
	*Griffin, Jim, MD	Growth Factors; MPD		C,P,L: Clinical and research issues in growth factors and their mechanisms of action.
	Orkin, Stuart	Hematopoiesis; Stem Cells	CHB	C: Genetics of thalassemias L: Transcription factor role normal and abnormal hematopoiesis

	Soiffer, Robert, MD	Transplantation		C, P: Bone Marrow Transplantation
	Stone, Richard, MD	MDS and MPD		C,P: MDS and MPD
MGH (5)	Grabowski, Eric, MD, SCD	Pediatric Hemostasis and Thrombosis		C: Pediatric Thrombosis and hemostasis P: Trials in pediatric thrombosis
	*Kuter, David, MD, DPHIL	Adult Hemostasis and Thrombosis		C: Adult thrombosis, HIT. P: Clinical trials in adult HIT and thrombosis risk factors
	Scadden, David, MD	Stem Cells	Harvard Stem Cell Institute	C: Stem cell biology and marrow "niches" P: Trials of microenvironment modification
	Weinstein, Howard, MD	Pediatric Hematology; Pediatric MPD		C: Pediatric "pre-leukemic" states and pediatric transplantation
	Dzik, Walter H., MD	Transfusion Medicine		C,P: Transfusion medicine, clinical trials in transfusion practice