



University of Pittsburgh

Department of Medicine  
School of Medicine

*Post-doctoral Training Program in*

**TRANSLATIONAL RESEARCH AND ENTREPRENEURSHIP IN PULMONARY VASCULAR BIOLOGY**

Date: \_\_\_\_\_ Proposed starting date of fellowship: \_\_\_\_\_

Name: \_\_\_\_\_  
(First) (Middle) (Last)

Date and place of birth: \_\_\_\_\_

Citizenship or green-card status: \_\_\_\_\_

Home address: \_\_\_\_\_  
\_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_ - \_\_\_\_

**EDUCATION**

College	Degree	Month / Day / Year
<i>Undergraduate</i>	_____	____ / ____ / ____
<i>Graduate school</i>	_____	____ / ____ / ____
<i>Medical school</i>	_____	____ / ____ / ____

*Honors, special training, etc.:* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Professional Positions**

**Institutions**

**Dates**

_____	_____	_____ to _____
_____	_____	_____ to _____
_____	_____	_____ to _____

**Letters of Reference**

Please list names and addresses of three (3) references. *Letters of recommendation should be e-mailed by the referee to Tess Petropoulos (tkp3@pitt.edu).*

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

**Additional Materials**

In addition to this completed application form, please provide the following items as a single PDF:

- 1. Current curriculum vitae
- 2. Brief (1-2 page) statement of your plan of research and study, including:
  - a. a description of your primary area(s) of interest
  - b. the type of research you wish to carry out
  - c. the particular methods of approach in which you require additional training
  - d. mentor(s) with whom you would prefer to work
- 3. Copy of medical or graduate school transcript

Send the completed application form and additional materials to:

Tess Petropoulos  
Vascular Medicine Institute  
University of Pittsburgh  
E1240 BST, 200 Lothrop Street  
Pittsburgh, PA 15261  
Phone: 412-648-2358  
[tkp3@pitt.edu](mailto:tkp3@pitt.edu)



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Pittsburgh

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### *Post-doctoral Training Program in*

## **TRANSLATIONAL RESEARCH IN PULMONARY VASCULAR BIOLOGY**

The University of Pittsburgh School of Medicine supports a two- to three-year postdoctoral program titled "Training in Translational Research and Entrepreneurship in Pulmonary Vascular Biology," funded by the National Heart, Lung, and Blood Institute (NHLBI). The Program is intended for M.D. and Ph.D. fellows from fields of pulmonary and cardiovascular science. The Program features initial development of a 'translational research tool set,' individually-prescribed development plan, paired mentorship teams of basic and clinical researchers, emphasis on high impact publications, and preparation of a career development award (K-series or equivalent). Trainees may also participate in the Biomedical Entrepreneurship Track program.

### ***Translational Track:***

A two-year intensive training fellowship with our translationally-oriented vascular biology mentors. The fellowship mentorship may include a basic-science-oriented mentor or a clinical-science-oriented mentor; trainees are highly encouraged to develop a mentorship team comprised of mentors across the translational spectrum, allowing for comprehensive training in basic science with the necessary application to the clinical and patient environment. Projects will require the learning of cutting-edge scientific methodologies (e.g., mass spectrometry, flow cytometry, molecular biology, etc.) applied to a clinical problem, leading to potentially novel therapeutic approaches or clinical studies in patients (e.g., development of human subjects protocols for specimen collection, pharmacological infusions, or development of patient cohorts or interventions). In addition to the two-year fellowship, an optional third year will be offered to allow for advanced career development.

**'Translational Research Tool-Set':** Immersion in an initial core competency training period in translational research including an intensive 2-week accelerated introduction to bench-to-bedside research and laboratory techniques at the University of Pittsburgh and an introduction to understanding and managing regulatory issues for human and animal research. Throughout the first six months, trainees will complete the 'Introduction to Translational Research' (CLRES 2140) course offered through the CTSI. A unique aspect of our translational training is the incorporation of full-time elective rotations at the FDA, intramural NIH Clinical Center Regulatory and Pharmacy Development Program, and Industry. This intensive exposure allows the trainee to develop the elemental tools for translational research: basic science methodology, clinical translational methodologies, and key regulatory tools.

### ***Entrepreneurial Track:***

Trainees interested in pursuing an MBA will be encouraged to matriculate through the UPitt's Katz Graduate School of Business. The Katz part-time MBA is a flexible program that can be completed either on campus, online, or a combination of both formats. This will allow trainees the flexibility to complete the program at their own pace concurrently with scientific training. Tuition support from the T32 will be used to partially defray the expenses of the MBA. For those who prefer not to commit to the full MBA program, Katz offers a variety of micro-credentials. These mini-qualifications are typically 6-9 credits (2-5 courses) and provide the trainee with knowledge and skills in a specific area of business, and can be completed at the pace of the trainee. Currently, Katz is offering a micro-credential entitled "Leading People in Organizations" specifically for post-doctoral trainees. Additionally, a micro-credential in "Innovation and Entrepreneurship" is available and includes classes such as "Commercializing New Technologies," "New Venture Innovation," and "Strategic Management." Tuition support from the T32 can

be utilized to cover the cost of these programs.

**Core Competencies:** Trainees may participate in elective summer programs to incorporate hands-on entrepreneurship and commercialization training opportunities in academic-based biotechnology start-up companies, including Creegh Pharma and Globin Solutions Inc. To provide trainees with a primer on scientific entrepreneurship and commercialization, Dr. Schopfer will organize a two-day long “boot camp” program each summer to teach the basic principles of scientific entrepreneurship.

***Research Project:***

Each trainee will be expected to complete at least one major research project during the training program. Ideally, the project will provide the basis for subsequent NIH grant applications such as an F32 or K series career development award. Each Fellow is also expected to publish a minimum of 2-3 peer-reviewed papers (with at least one as first author) within the two-year training period.

***Individualized Development Plan:***

Trainees are likely to enter the Program with varying degrees of experience and sophistication in research methods, design, and statistics. Therefore, formal coursework will need to be individualized for each trainee. Examples of University of Pittsburgh courses most likely to be recommended for trainees are 1) CLRES 2010 Clinical Research Methods; 2) CLRES 2020 Biostatistics: Statistical Approaches in Clinical Research; 3) CLRES 2040 Measurement in Clinical Research; and 4) CLRES 2050 Ethics and Regulation of Clinical Research. Typically, one or two of the courses per year will be required for each trainee based on individual needs.

***Evaluation:***

Each Fellow will present an oral progress report to the Training Committee annually, to facilitate evaluation of progress and focus in future direction. Written evaluations by trainees and mentors will be completed each year. More frequent informal education is recommended. For trainees interested in the entrepreneurial track, the Entrepreneurial MBA program has developed formalized evaluation documents for trainees, and the trainees' performance within this program will be evaluated based on a rubric that includes ethics and professional standards, oral and written communication, multidisciplinary teamwork, research expertise, scholarship, and entrepreneurial acumen.

***Program Leadership:***

**Program Director:** Sruti Shiva, PhD

**Program Co-Directors:** Stephen Chan, MD, PhD; Adam Straub, PhD; Solomon Ofori-Acquah, PhD

**Training Faculty:** Imad Al Ghouleh, Stephen Chan, Bill Chen, Partha Dutta, Toren Finkel, Daniel Forman, Bruce Freeman, Delphine Gomez, Brett Kaufman, Alison Morris, Anne Newman, Enrico Novelli, Solomon Ofori-Acquah, Patrick Pagano, Francisco Schopfer, Frank Sciorba, Iain Scott, Sruti Shiva, Adam Straub, Prithu Sundd, Flordeliza Villanueva, Brian Zuckerbraun