

## The TRANSFORM TL1 Training Program for Doctoral Students

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### INFORMATION AND APPLICATION PROCEDURES

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**I. Background.** On September 29, 2006, Columbia University became one of the first twelve institutions to compete successfully for the new Clinical and Translational Science Award (CTSA) from the National Institutes of Health. Through the CTSA, the NIH launched a national consortium that seeks to transform the conduct of clinical and translational research, with the ultimate goal of enabling researchers to provide new treatments more efficiently and quickly to patients. The CTSA at Columbia University encompasses extensive research support, infrastructure, training programs, and mentoring mechanisms. A key component is the **TRANSFORM TL1 Training Program**, which offers structured training and practical exposure to the needed training for **doctoral students currently enrolled in basic science, population science or pre-clinical doctoral programs**, who want to gain some exposure to understanding how individual differences in people's genes, environments, and lifestyles can lead to the development of innovative approaches to disease prevention and treatment.

The TRANSFORM TL1 Training Program is intended to provide students already enrolled in doctoral training programs, primarily from GSAS, P&S, School of Nursing, or the Mailman School of Public Health, with additional research training to prepare for an academic research career that can contribute in some meaningful way to the important field of precision medicine. [Please note that precision medicine includes research related to, but not limited to, lifestyle, environment, or genetics.] This two year training opportunity<sup>1</sup> which will run simultaneously with the students' ongoing doctoral training, allows doctoral students to gain knowledge and skill-sets that may be outside of their primary academic or clinical discipline. The interdisciplinary education gained as a TRANSFORM TL1 trainee will serve as an invaluable asset in conducting future research and collaborating with scientists and investigators from other clinical and academic fields of knowledge. Participation in this program will not necessitate extending an individual's doctoral training program.

**II. Award Provisions.** With TRANSFORM support, doctoral students will participate in an integrated didactic and mentored training program. They will accomplish this goal by completing didactic training (including **Introduction to Precision Medicine**) that will advance their knowledge of precision medicine, such as systems biology, genomics, statistics, and/or medical informatics, according to the applicant's background and future career goals. They will also attend the year-long, weekly **Patient Oriented Research colloquia** (hour-long presentations covering academic career topics of interest), **monthly Precision Medicine colloquia**, **Introduction to ELSI Research on Genetics and Genomics, Funding and Grantsmanship for Research and Career Development Activities**, and the **Responsible Conduct of Research and Related Policy Issues**. It is important to note that these course activities **will be in addition** to the coursework and mentored research they will be completing within their "home" program. Successful completion of the 1-credit course entitled "Responsible Conduct of Research" is required, but can be part of the doctoral requirements.

**Eligible students admitted into the training program will be considered for an award that will provide 2 years of support (awarded for 1 year and renewed for a second year with satisfactory progress)**

<sup>1</sup>Initially awarded for 1 year and renewed for a second year with satisfactory progress

**including a stipend and funds for tuition and fees. Students should discuss with their Program Director if stipend and tuition award supplementation is available.**

*\*TL1 award recipients must be FULL-TIME doctoral students, as per NIH guidelines.*

### **III. Eligibility Criteria for TRANSFORM TL1 Training Program.**

- Applicant must be a U.S. citizen or permanent resident to be eligible for funding under this program.
- The CTSA places special emphasis on multidisciplinary research, which must be reflected in mentorship for this program. Consequently, each applicant must identify **one Multidisciplinary Mentor from a different discipline** than the Dissertation Supervisor to advise on his/her research progress during the period of the CTSA award. Any Columbia University Faculty member can serve as a multidisciplinary mentor.
- Students entering their third year of doctoral training or beyond are preferred.
- The applicant must not have a concurrent award from the NIH or other PHS funding.

### **IV. Application Information**

Applications will be judged primarily by: 1) the academic potential of the doctoral student to engage in and contribute to Precision Medicine research; 2) the merit of the proposed courses/additional mentor/personal statement; 3) the strength of the recommendation letters.

#### **Supplemental pieces to the application form include:**

- Current CV
- Updated NIH Biosketch for trainee and mentors
- Training Support (past, current, and pending)
- Current academic transcript
- Research Proposal (no more than 2-pages single spaced; no less than .5" margins and Arial 11 font size), highlighting any innovative approaches to disease prevention and treatment that takes into account individual differences in people's genes, environments, and lifestyles.
- Personal Statement (no more than 250 words): Please explain why you have chosen to seek additional research training via the TRANSFORM TL1 Training Program.
- Career goals (no more than 250 words): Explicitly describe your career goals and how the TRANSFORM TL1 Training Program would prepare you for them.
- A proposed schedule of meeting times between the student and his/her mentors
- Proposed precision medicine coursework
- Three letters of recommendation (Dissertation Supervisor, TRANSFORM Multidisciplinary Mentor, Department Chair). Each letter should comment on the following:
  - **Applicant's academic potential**
  - **Applicant's proficiency in own area of study**
  - **Applicant's ability to extend into precision medicine that would be meaningful to the candidate's own research**

\*The Dissertation Supervisor letter should also guarantee that the individual will have support to complete the TRANSFORM TL1 Training Program requirements during the award period.

**V. Further Application and Award Details.**

- Note that the typical duration of the TL1 award is 2 years, initially awarded as a one-year grant but renewable annually based on performance and renewal of the CTSA grant from NIH.
- The TL1 program places special emphasis on multidisciplinary and interdisciplinary research (see section VIII for definitions), which must be reflected in the research, training, and “team mentorship” plans. By “team mentorship,” we mean that each applicant must identify **TL1 Mentors from at least two different disciplines** to supervise his/her research progress during the period of the award (see sections VIII and IX below for guidance). Additional consultants may also be named, as needed and appropriate. A proposed schedule of meeting times between the scholar and his/her mentors must be provided.
- Candidates who enter the program will take didactic courses related to precision medicine and career development.
- Successful completion of the 1-credit course entitled “Responsible conduct of research and related policy issues” (G4010) is required of all TL1 scholars.
- Active participation in and attendance (80% or better) at the weekly POR Career Development Colloquium and monthly Precision Medicine Colloquium is a program requirement, as well as completion of all assignments.
- Attendance at monthly Precision Medicine Seminars
- Attendance at a minimum of two Precision Medicine lunches per year.
- TL1 Scholars will be required to present oral progress reports 1-2 times per year and to submit a written report annually.
- TL1 Scholars will be required to participate in a collaborative meeting with other NYC area TL1 trainees once during the year which may be a poster session, workshop, presentation, etc
- Awardees will be required to participate in at least one Externship opportunity during the funding period.
- Each scholar and his/her mentors must attend periodic progress report meetings, and must also provide upon request written updates on the scholar’s academic career accomplishments and feedback on the program and mentorship, both during the program and throughout the scholar’s career.
- Scholars must work with administrators in their home departments as well as CTSA administrators to ensure successful management of TL1 salary and funds for the costs of tuition, research expenses, travel, and supplies.
- At the end of each funding year, TL1 Scholars must complete an audit and planning meeting with the TRANSFORM program manager to review completed requirements and what is expected in year 2.

- In order to receive a TL1 Award, scholars and their mentors must sign the “TL1 Compact” indicating their agreement to all TL1 Award requirements and expectations.

Questions? Contact the Irving Institute Education Center at [ctsa\\_edu@cumc.columbia.edu](mailto:ctsa_edu@cumc.columbia.edu)