The YCCI Program will be open to ALL pre-doctoral applicants training across the full span (T1-T4) of clinical and translational research. All applications will be accepted and reviewed based on scientific merit.

All Applicant category: Multidisciplinary Pre-Doctoral Training Program in Translational Research

The Multidisciplinary Pre-Doctoral Training Program in Translational Research aims to identify and support a representative and diverse group of outstanding trainees who specifically want to pursue careers in clinical and translational research; to train them in the use of state-of-the-art research tools; to enhance their abilities to work collaboratively in complex multidisciplinary research teams; to provide outstanding mentoring (including concordant mentoring) by experienced and diverse faculty that support the trainee’s long-term professional development. Pre-doctoral students from medicine, nursing, public health and biomedical engineering interested in training across the full span (T1-T4) of clinical and translational research are encouraged to apply. The program will tap into Yale’s established educational leadership team who have diverse backgrounds in clinical and translational research, as well as expertise in the evaluation and dynamic reshaping of medical education programs. The leadership will work directly with both the trainees and their mentors to promote multidisciplinary team-based research that addresses complex medical and/or societal aspects of health and healthcare delivery in the US and around the world.

Funded by the Yale CTSA, this program focuses of providing students the opportunity to develop and participate in multidisciplinary team research with mentorship of Yale faculty in 2 or more disciplines. Students in the program will:

- Identify a research question related to patient or public health.
- Establish a mentoring team comprised of both a primary and secondary mentor that come from distinct disciplines that work as a team to address the research question. An example would be a primary mentor from Medicine or Nursing and a secondary Mentor from Biomedical Engineering or Public Health.
- Gain clinical or laboratory research experience under the mentorship of the mentoring team.
- Interact with Yale physician-scientists, PhD investigators, pre and postdoctoral fellows, and graduate students
- Participate in a weekly lecture series presented by world-renowned faculty
- Attend additional institutional lectures, departmental conferences, and lab meetings
- Present their research to program peers and Yale faculty during the final week of the program.

Research projects reflect a broad-based perspective on the entire research cycle from discovery to development to delivery of care. Project areas include laboratory bench research, clinical research, biostatistics and epidemiology among many others.

Areas of Special Consideration:
The YCCI Program will be open to all applicants training across the full span (T1-T4) of clinical and translational research. All applications will be accepted and reviewed based on scientific merit; however, some priority will be given to investigators who:

- Pursue research in clinical and research informatics;
- Pursue Lifespan research;
- Are underrepresented minorities

**Special emphasis: YCCI Multidisciplinary Pre-Doctoral Program to Promote Clinical & Research Informatics**

YCCI is pleased to announce the Clinical & Research Informatics trainee program open to predoctoral candidates from across all fields of medicine with many different potential areas of practice and study. Among the many subspecialties that have emerged within medicine, Clinical Informatics is a unique blend of knowledge and application of medical, information, and computer science with application towards healthcare delivery. With the widespread adoption of electronic health records and supporting systems, the importance and need for physicians trained in Clinical Informatics has dramatically grown. Similarly, the application of Informatics to support clinical research is a burgeoning field in need of more well-trained knowledge experts. Both Clinical and Research Informatics are essential components to the daily practice and regular research activity of every medical specialty at the Yale School for Medicine.

Candidates will identify a primary faculty mentor within the academic Yale community, with the secondary mentor coming from the Clinical Informatics Physician Leadership and/or the Joint Data Analytics Team (JDAT) for the School of Medicine and Yale New Haven Health System. The secondary mentor can be either identified by the applicant, or will be assigned later by the Informatics team. This team provides the clinical and research informatics leadership for all of the departments at the School of Medicine as well as the six hospital campuses of the health system. As a result, the Clinical and Research Informatics trainee program at Yale will have a significant impact on patient care in every medical department, as well as on medical education at the undergraduate and graduate levels, and the translational medical research being conducted in the School of Medicine and other colleges throughout the Yale.

For the purposes of this RFA, YCCI will use the definition of Clinical Informatics and Clinical Research Informatics as defined by American Medical Informatics Association (AMIA). Clinical Informatics is the application of informatics and information technology to deliver healthcare services and is also referred to as applied clinical informatics and operational informatics. Similarly, Clinical Research Informatics is considered by AMIA to involve the use of informatics in the discovery and management of new knowledge relating to health and disease, including management of information related to clinical trials and other research. AMIA considers informatics when used for healthcare delivery to be essentially the same regardless of the health professional group involved (whether dentist, pharmacist, physician, nurse, or other health professional). Clinical informatics includes a wide range of topics ranging from clinical decision support to visual images (e.g. radiological, pathological, dermatological, ophthalmological, etc); from clinical documentation to provider order entry systems; and from system design to system implementation and adoption issues. [https://www.amia.org/applications-informatics/clinical-informatics](https://www.amia.org/applications-informatics/clinical-informatics)
The program is designed to provide the trainee with a foundation in Clinical and Research Informatics, as well as the opportunity to focus on several areas of specific interest in which they will obtain a deeper understanding.

**Educational Program:**
The education program for the Clinical Informatics program includes these main educational components:

- **Operational rotations:** The trainee will collaborate with clinical and research leadership at the Yale School of Medicine and Yale New Haven Health System, faculty, healthcare providers, information technology application teams (including, but not limited to, Epic, OnCore, and ancillary systems). The trainee will participate on leadership committees on active short and long-term projects throughout the medical practice and health system to improve clinical and research care. Projects for successful candidates will be broad-based across the healthcare system and may include projects within their specific areas of medical practice and/or interest. A focus on the study and development of informatics solutions to support and improve clinical and research care delivery within existing information technology systems, and thus more highly replicable, is encouraged.

- **Research rotations:** The fellows will undertake informatics research in one or more areas of interest under the mentorship of our faculty. It is expected that this research will be presented at national meetings and/or submitted for publication in peer-reviewed journals. The trainee may also have the opportunity to rotate to external institutions engaged in clinical and research informatics to broaden the experience and foster inter-institutional collaboration and cross-pollination of ideas and strategies.

- **National meetings:** Attending national meetings helps trainees to understand the scope, scale and current thoughts in Clinical and Research Informatics, and provides them the opportunity to network with informatics colleagues. Trainees are expected to attend at least one national informatics meeting during the program, and are encouraged to present their work at these conferences.

**Special emphasis: YCCI Multidisciplinary Pre-Doctoral Program to Promote Lifespan Research**

YCCI is pleased to announce the Lifespan trainee program open to predoctoral candidates from across all fields of medicine with many different potential areas of practice and study with an interest in lifespan research perspective.

Lifespan research brings a developmental perspective to questions of individual differences in aging, susceptibility to diseases, the impact of early stressors and adversity across the developmental process, and the intergenerational transmission of risk for diseases. Lifespan research aims to understand the developmental origins of disease to better achieve earlier diagnosis and intervention, and lessen the impact of disease as people age. Lifespan research also seeks to recognize risk factors in childhood and adolescence that increase the risk for diseases of either greater severity or earlier expression in adulthood. Lifespan research is inherently interdisciplinary in that questions may bring together, for example, researchers in childhood diseases and those focused on aging.
Candidates will identify a primary faculty mentor within the Yale academic community based on their research question, and either identify a secondary mentor from the YCCI Lifespan Program or request that one be assigned. The YCCI Lifespan Program is developed to bring together investigators from diverse disciplines to study important lifespan research questions that are relevant to clinical medicine across the developmental process.

**Special emphasis: YCCI Multidisciplinary Pre-Doctoral Program to Promote Diversity in Translational Research**

The YCCI is committed to the development and support of a research workforce that engages the ideas, creativity, and innovation from all diverse backgrounds and segments of society. YCCI seeks to promote diversity in all of its training and research programs, and to increase the participation of underrepresented groups. We have therefore decided to have an initiative focused on the further promotion of diversity in translational research.

YCCI announces this request for applications for the YCCI Pre-Doctoral Program to Promote Diversity in Translational Research, which will provide support to under-represented predoctoral trainees. Translational research includes clinically-based, laboratory-based, population-based or community-based research that is focused on understanding or treating human diseases. The goal of the program is to attract outstanding trainees who are members of populations that are under-represented in the biomedical research workforce and who want to pursue careers in any type of translational research. The program provides training in the use of state-of-the-art research tools; enhances the abilities of the trainees to work collaboratively in complex multidisciplinary research teams; and provides outstanding mentoring (including concordant mentoring) by experienced and diverse faculty that support the trainee’s long-term professional development, including connecting diverse individuals to supportive networks; and providing resources for retention and eliminating barriers for career transition. Awards will be for one year with the potential to request a second year of support.

**Specific Requirement in this:**
Applicants must be a member of a population identified by NIH as under-represented in the U.S. biomedical, clinical, behavioral and social sciences research enterprise (see NIH Notice NOT-OD-18-210).

**All Application Details:**

*The YCCI Program will be open to ALL applicants training across the full span (T1-T4) of clinical and translational research. All applications will be accepted and reviewed based on scientific merit.*

Due date for applications in all areas: July 31, 2020 at 5:00 PM
Anticipated start date: September 1, 2020
Applications must be submitted online via the link available at https://medicine.yale.edu/ycci/education/predoc/

**Requirements:**
• Applicants must be Yale students actively enrolled in and in good standing in the MD program, the MD-PhD program, or one of the following PhD programs: Engineering and Applied Science, Nursing, or Public Health.
• Applicants who are working toward their MD degree must have a commitment from a Yale faculty primary mentor to support them in a year-long research experience, and are strongly encouraged to enroll in the Master of Health Science degree program.
• Applicants who are working toward their PhD degree must have passed their qualifying examinations.
• Current or former program awardees are not eligible to apply.
• The applicant’s primary mentor must hold a full-time faculty appointment at Yale University.
• The applicant’s secondary mentor should come from a discipline, Department, or School that is distinct from the primary mentor.
• This program is funded by a National Research Service Award (NRSA) from the National Institutes of Health. Accordingly, all NRSA rules and policies apply, including the items below.
• Candidates must be citizens or non-citizen nationals of the United States or have been lawfully admitted for permanent residence.
• NRSA support at the predoctoral level, via institutional training grants or individual fellowship awards, is limited to 5 years. Candidates may have no more than 4 years of NRSA support prior to beginning the program.
• Trainees appointed to the program must participate on a full-time basis.
• Applicants may request the following items
  o Stipend support at the prescribed NIH pre-doctoral level based on NIH Notice NOT-OD-20-070
  o Training Related Expenses up to $4,200
• Mentors/Departments will need to commit to covering any additional costs of the trainee.

Additional Terms of the Award:
• Recipients must be prepared to start the award on time, which means that all required approvals (IRB, IACUC, etc.) must be obtained by the start of the award.
• Recipients will be required to complete training in the responsible conduct of research, appropriate for their career stage, that complies with NIH standards regarding format and range of topics to be covered.

Questions:
For questions about the application process and eligibility, please contact Nicholas Licht (Nicholas.Licht@yale.edu). For questions related to the science of the project please contact Lloyd Cantley (Lloyd.Cantley@yale.edu), Eugene Shapiro (Eugene.Shapiro@yale.edu) or Rajita Sinha (Rajita.Sinha@yale.edu)