Irving Institute for Clinical and Translational Research  
Columbia University  
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The mission of Columbia University Medical Center’s Clinical and Translational Science Award (CTSA) is to transform the culture of research to hasten the discovery and implementation of new treatments and prevention strategies. Our core objective is to move the CUMC (Columbia University Medical Center) research community to a more multi- and interdisciplinary scientific mindset by removing barriers and creating incentives for interactions among investigators from different disciplines. CUMC’s first step towards reaching this goal was the establishment of the Irving Institute for Clinical and Translational Research—the academic home for clinical and translational research at Columbia. Irving Institute faculty include some of CUMC’s most accomplished, senior researchers who provide leadership and serve as mentors for junior faculty, fellows, and trainees. The resources provided by the Irving Institute offer support in biomedical informatics, study design and biostatistics, data management, bioethics, regulatory issues, core laboratory facilities, community engagement, pilot funding, education and career development, plus a fully-staffed Clinical Research Resource for campus investigators.

The Irving Institute’s headquarters occupies the entire 10th floor of two connected buildings, the Presbyterian Hospital and the Harkness Pavilion. The total space occupied is approximately 25,000 square feet (ft²). The administrative suite occupies 1,200 ft² at the center of the overall space. Immediately adjacent are both the Adult Outpatient Unit (2,450 ft²) and the Adult Inpatient Unit (6,000 ft²). Across the hall are 690 ft² of space dedicated to a Bionutrition Unit. In June 2010, we finalized the construction of a 2,200 square-foot, state-of-the-art educational center on PH-10-Stem. A 400 ft² conference room and 5,000 ft² Biomarkers Core laboratory and office space round out our attractive research location.

The Irving Institute is comprised of eight (8) key functions, or ‘Resources,’ that are available to the CUMC research community:

- **Pilot and Collaborative Studies Resource (PCSR).** Provides funds for C/T research initiatives, including pilot awards to junior investigators, and grants in support of both C/T research and C/T methodology.
  - The Irving Institute/Clinical Trials Office (CTO) pilot award is jointly administered by the CTO and awards sixteen $50,000 grants each year. Recently, the program has cultivated partnerships with the various departments on campus who provide ‘matching funds’ to these promising researchers.
  - The CaMPR (Collaborative and Multidisciplinary Pilot Research) awards program has stimulated senior and junior faculty to join together in creating new and novel teams to tackle research questions that require a multidisciplinary approach. Four $15,000 Phase I planning grants are awarded each year. Of these four planning grants, a second competition is conducted whereby one final Phase II grant is selected for an additional $75,000.
  - CaMPR-Basic (Collaborative and Multidisciplinary Pilot Research Award for Basic Science and Clinical/Translational Investigators) awards offer support for collaborations between researchers from the basic science departments at CUMC or the Morningside Campus and clinical/translational investigators at CUMC. Two awards of $40,000 each are funded annually.
  - Irving Institute/Department of Biomedical Informatics Health Practice Research Pilot Awards support translational research that applies operational interventions such as
Information technology, operations research and simulations to improve the practice of health care. Assuming availability of funding, one $25,000 award is given annually.

- The Imaging Pilot Award Program provides funding for junior investigators employing functional imaging (PET and MRI human and animal studies). The grants range from $5,000 to $10,000.

- **Biomedical Informatics Resource (BMIR).** The vehicle that brings informatics technology to the mainstream C/T community, BMIR helps to integrate existing informatics resources across campus and within the Irving Institute. A major project of this group is the social ‘profile’ network, CUSP (Columbia University Scientific Profiles), which fosters collaborations and brings together investigators from different disciplines utilizing a simple Web search and enables ‘visual’ searching capacity using our newly-developed Sciologer social networking tool.

- **Design and Biostatistics Resource (DBR).** Brings together outstanding investigators from biostatistics and epidemiology who work together to assist with C/T research study design and statistical advice. DBR has provided more than 850 consults since its inception. Up to five hours of statistical consultation are free to Columbia’s research community, and several long-term collaborations have arisen from these consultations.

- **Regulatory Knowledge and Support/Clinical Research Ethics Resource (RKSER).** Unifies existing but isolated groups at CUMC to enhance regulatory education, compliance, and ethics. RKSER works closely with the Clinical Trials Office, the Office of Technology Ventures, and the Institutional Review Board to provide investigators with assistance in moving the research process forward. The Ethics Resource offers a seminar series on topics of ethics and research and also provides consultations.

- **Clinical Research Resource (CRR).** Builds upon the former General Clinical Research Center (GCRC) structure with adult and pediatric inpatient and outpatient units, highly-trained research nurses, phlebotomy services and facilities. In addition, we have extended “outside the walls” of the GCRC by providing support for research in other areas of CUMC (NICU, PICU, Neuro ICU, and ERs) as well as through our affiliation with St. Luke’s Roosevelt Hospital Center. The CRR is the major provider of resources for the actual conduct of patient-oriented research on campus. Over 100 CUMC research faculty utilize our inpatient and outpatient resources each year.

- **Community Engagement Core Resource (CECR).** Fosters research conducted in partnership with community stakeholders to better inform the application of scientific findings to clinical and community settings. CECR supports community-engaged research between CUMC researchers, multi-sector stakeholders, and the community at-large by (1) providing capacity building opportunities on and guidance with community-based participatory research to Columbia University faculty, (2) collaborating with key administrative entities within CUMC to facilitate the involvement of community stakeholders in research, (3) disseminating research findings to stakeholders, and (4) linking community residents to health research, information, and services. A key area of innovation is CECR’s off-campus home, the Columbia Community Partnership for Health (CCPH), located just 10 blocks north of the medical campus and steps away from the George Washington Bridge and public transportation, in the midst of our Washington Heights neighborhood. CCPH provides free space for health related activities to Columbia University investigators and community groups and is designed to facilitate the health information and research needs of our community residents, social service and community-based organizations, and CUMC researchers.
The Irving Institute’s educational resource administers the interdisciplinary master’s, predoctoral and career development programs. By nurturing and training the next generation of translational and clinical researchers to effectively work on interdisciplinary teams, TRANSFORM activities help to change and improve the culture of research at CUMC and speed the process of research and discovery for the improvement of public health. TRANSFORM offers an array of integrated educational programs including a multidisciplinary, patient-oriented research master’s degree for fellows and junior faculty; a multidisciplinary, mentored KL2 research program for junior faculty; a TL1 training program; and short-term training for novice investigators. The following programs are open to faculty, postdoctoral fellows, and graduate students in all schools at CUMC:

- The KL2 program provides career support for Assistant Professors who are conducting interdisciplinary research; they receive salary support as well as funding for education and their research.
- The TL1 training program.
- The 30-credit master’s degree program in Patient Oriented Research is designed specifically for clinical and translational scientists, and covers study design, analysis, and grant writing skills. A key requirement of the MS/POR program is the completion of an independent grant application, usually in R01- or K23-format, submitted as a master’s thesis.
- Reach for the First R01, a short-term training opportunity, is available twice a year to Columbia’s most promising junior faculty. Each term, approximately 4-6 faculty members are selected for training in the submission of their first R01 application, and receive five free hours of biostatistical consulting, access to other Irving Institute resources, two expert pre-reviews on an early draft of their R01 application, and a rigorous bimonthly meeting to ensure structure and timeliness in completing the tasks required to successfully submit a first application.
- The Columbia Summer Research Institute (CSRI), another short-term training opportunity, provides fundamental skills in research design and statistical analysis for patient oriented research. Within the five week program, postdoctoral fellows and junior faculty from clinical and translational disciplines earn academic course credit while experiencing the quality and rigor that characterize graduate training at Columbia University.

In addition to activities directly related to the CTSA, the Irving Institute offers approximately four Irving Assistant Professorships each year. These awards provide $60,000 in undesignated funds for three years to the most promising Assistant Professors at the Columbia’s College of Physicians and Surgeons. We have awarded approximately $16 million to our faculty since 1987.