Clinical & Translational
SCIENCE CENTER

The Clinical and Translational Science Center (CTSC)

Weill Cornell Medical College

Clinical and Translational Science Center

This center was established through the integration of resources among institutions on York Avenue – The Avenue – and in the immediate area.

- Weill Cornell Medicine (WCM)
  - Weill Cornell Medical College (WCMC)
  - Weill Graduate School of Medical Sciences (WGSMS)
  - Weill Cornell Campus of New York Presbyterian Hospital (Greenberg Pavilion)
- Weill Cornell-affiliated hospitals
- Cornell University – Ithaca
- Cornell University Cooperative Extension in New York City (CUCE-NYC)
- Memorial Sloan Kettering Cancer Center (MSKCC)
- Hospital for Special Surgery (HSS)
- Hunter College of the City of New York
- Hunter College School of Nursing (HSCON)/City University of New York
- Hunter College Center for the Study of Gene Structure and Function/ Research Center for Minority Institutions (RCMI)
- Animal Medical Center and Cornell College of Veterinary Medicine

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Steps to Conduct Research

How the CTSC can help with your research projects:

1. Seek education and training opportunities
2. Assemble your team
3. Choose facilities to conduct and carry out the study (i.e., inpatient / outpatient unit, adult / pediatrics).
4. Design a research protocol
5. Create a budget, obtain funding
6. Recruit and retain research subjects
7. Manage your data
8. Analyze your data
9. Publish
10. Apply for future funding

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1. Seek Education and Training Opportunities

- **CTSC Career Enhancement (CE) Track:**
  - Allows non-matriculated students to enroll in specific didactic clinical and translational investigation courses to fulfill individual applicant's self-identified educational needs
  - Eligible to receive a maximum of 9 core and unlimited elective course credits through the Weill Cornell Graduate School
- **CE core courses include:** ***(provided year round)***
  - Bioinformatics Workshop
  - Introduction to Biostatistics
  - Clinical Trial Design and Analysis
  - Data Management
  - Foundations of Clinical Research
  - Foundations of Epidemiology
  - Molecular Biology and Genetics
  - Research Grant Writing
  - Principles of Clinical Pharmacology

(Full listing on the CTSC website)

http://weill.cornell.edu/ctsc/

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1. Seek Education and Training Opportunities

- **Professional Development Workshops:** ***(provided year round)***
  - Write Winning NIH Grants
  - Writing for Biomedical Publications
  - Write Winning NIH Renewals
  - Grant Review and Support Program
  - Mentor/Mentee Training
  - Drug Development and the FDA
  - Preparing IND Submissions
  - GCP for Medical Devices
  - Investigator-Initiated Trials
- **Clinical Research Methodology Curriculum**
  - Full-day workshops hosted at MSKCC

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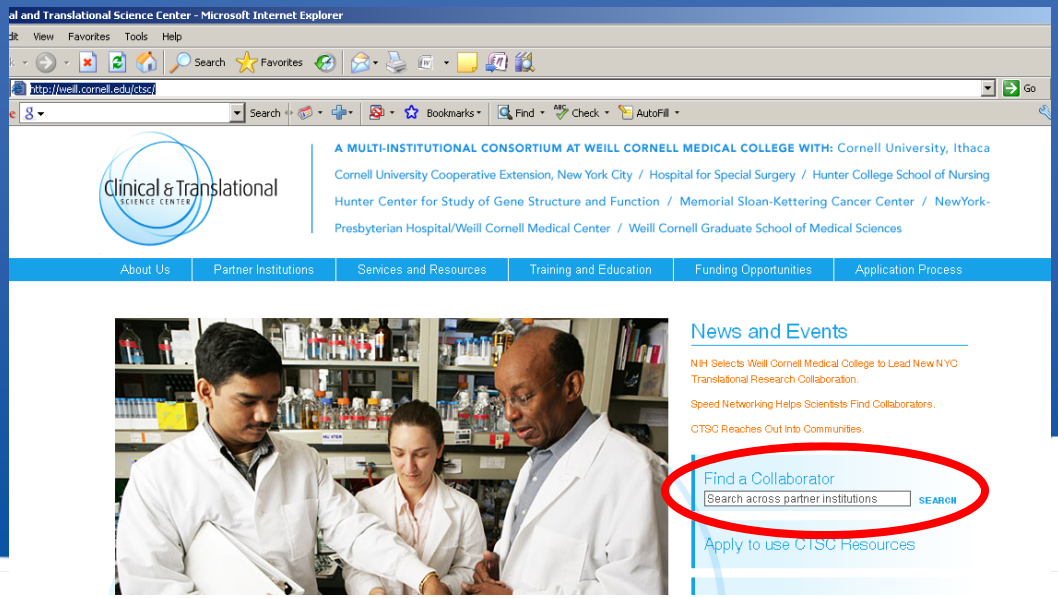
2. Assemble Your Team
Find Research Collaborators

The following resources may be helpful in finding research collaborators:

- **Mentor Search Tool**
- **Literature Search**
- **James Holahan** (jph2003@med.cornell.edu)
- **VIVO:** a research networking system that houses investigator profiles
- **"Find a Collaborator" search engine on the CTSC website**



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2. Assemble Your Team
CTSC Research Team Members

The following CTSC team members may assist with your research:

- **Translational Research Support Team (TREST)**
  - Research Manager
  - Research Coordinators
  - Subject Recruitment Specialist
- **Research Nurses and Technicians**
  - Staff with up to 35 years of experience in clinical research
  - Available to support both adult and pediatric studies
  - Carry out clinical assessments on the research protocol
  - Ensure proper and complete clinical implementation

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3. Choose Facilities

CTSC Units and Technical Cores

The following resources may be helpful in finding research collaborators:

- **Inpatient and Outpatient Units**
  - **Adult Outpatient Unit**, located on 2nd floor, Room F-260
    - Hours: M-F, 8am-6pm
    - Late hours are available with advance notice
  - **Adult Inpatient Unit**, located on 15th floor, Baker Building
    - Hours: M-F, open 24 hours; Saturday open until 5pm; Closed Sundays
  - **Pediatric Outpatient Unit**, located on 3rd floor, Helmsley Tower HT3
    - Hours: M-F, 8am-5pm
    - Late visits on Tuesday evenings, up to 7pm
  - **Pediatric Inpatient Unit**, located on 6th floor, 6 North
    - Hours: M-Sun, open 24 hours
  - **Scatter Nursing Services**
    - CTSC research nurses and technicians may perform services on other clinical units within the Hospital as needed
- **Nutrition Services**
  - Consultation on nutrition research design and methodology
  - Specially equipped metabolic kitchen
  - Special diet planning and dietary analysis

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3. Choose Facilities

CTSC Units and Technical Cores

The following resources may be helpful in conducting your research:

- **General Core Laboratory**
  - Sample processing and storage
  - Bulk immunodiagnostic and chemical assays
  - Various assays for cell biology
  - Multiplex assay instrument (SECTOR Imager 2400)
  - ChemiDoc MP imaging system
- **Molecular Core Laboratory**
  - DNA, RNA and protein extraction
  - Gene expression profiling
  - Genotyping
  - Oligonucleotide synthesis
  - Quantitative PCR, RT-PCR, Digital PCR
  - Next-Generation Sequencing (NGS)
  - Western Blot
- **3D Printing Core Laboratory**
  - Two 3D Printers and one 3D Scanner
  - Offers both printing and training resources

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4. Design A Research Protocol

Research and Scholarly Communication

The CTSC Informationalist can provide support for planning:

- Initial literature review
- Formulating research question
- Data management planning

Research Design and Biostatistics

Study Design and Proposal Development

- Formulate wording of testable hypotheses and associated primary aims
- Suggest optimal study design

Implementation and Study Conduct

- Review proposed data collection instruments and other measures for reliability, validity, and suitability for the planned data analysis

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5. Create A Budget

Study Budget and/or Requesting CTSC Ancillary Support

- Prior to submitting their CTSC research application, investigators should consult with the CTSC with questions related to CTSC budget requests and laboratory fees. Draft budgets can be pre-reviewed for feasibility and may shorten the application review time.

- Departmental or other institutional funds may be needed for subject payments or use of some core facilities.

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6. Recruit and Retain Research Subjects

- **Assistance with design and production of recruitment materials**
  - Flyers, brochures, online marketing tools
  - EPIC Alerts
- **Targeted distribution of recruitment materials**
  - Specific population groups (i.e. age, ethnicity, clinical diagnosis)
- **Community Engagement services**
  - Access to health fairs and community events in all 5 boroughs of NYC
  - Organize speaking engagements for research teams to advertise studies
- **Social Media**
  - CTSC Facebook Page
- **ResearchMatch Database**
- **Passport to Research Booklet**
- **AccrualNet *(http://accrualnet.cancer.gov)***
- ***i2b2 Cohort Discovery***

7. Manage Your Data

- **REDCap (Research Electronic Data Capture)** provides a secure method to collect and manage data for single-center and multi-center studies. The tool facilitates import and export of data from a variety of statistical tools, as well as enables the production of online surveys.
- **SUPER (Secondary Use of Patient Electronic Records) REDCap** is a new addition to REDCap that provides an ongoing data feed of selected fields from EPIC.
- **i2b2 (Informatics for Integrating Biology and the Bedside)** enables researchers to query de-identified data from the electronic health record and research systems at WCM to discover cohorts of patients preparatory to research.
- **Ohmage** collects data from smartphone surveys and on board sensors (GPS, accelerometer) to measure diet, sleep stress, exercise. Intuitive web-based dashboard for data visualization.
- **GobyWeb** is a user-friendly web-based platform for analysis of high-throughput sequencing data. The system enables online analysis of hundreds of samples and streamlines processing of RNA-Seq, Methyl-Seq, RRBS, or DNA-Seq datasets.

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8. Analyze Your Data

Research Design and Biostatistics

- Data Analysis
  - Advise on final data analysis
- Presentation/Publication
  - Collaborate in writing papers, abstracts, presentations
  - Review data accuracy and interpretation of inferential statistics in all reports of study methods and results

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9. Publish
Research and Scholarly Communication

The Manuscript Editing Service assist with can provide *manuscript preparation*:

- Manuscript editing and proofreading
- Document-styling guidance and writing advice

The CTSC Informationalist can provide support for *publishing*:

- Bibliographic management tool instruction support
- Custom journal recommendations, impact factors, reviewing publication agreements
- Discipline-specific conference recommendations
- Compliance with NIH open access policy

The CTSC Informationalist can provide support for *post-publication*:

- Custom citation alerts
- Assistance in identifying grant opportunities
- Custom bibliometric reports

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10. Apply for Future Funding

Pilot Awards

- Funding is provided for up to two years ($50,000 per year). Priority is given to proposals with:
  - Emphasis on drug discovery, targeted therapeutics, biomarker or device development and novel technologies. Team Orientation; translational focus; pre-clinical studies should have **near-term** potential to translate into patient- oriented research; clinical trials (phases I&II).

Community Engagement Awards

- Funding is provided for one year ($20,000 per year). Priority is given to proposals with:
  - Strong community focus with a clear goal of facilitating the transfer of evidence-based practice. Fostering collaboration between the community, CTSC institutions and affiliates with emphasis on comparative effectiveness research and health disparities research.

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10. Apply for Future Funding

Clinical and Translational Education Program

- One-year Advanced Certificate in Clinical and Translational Investigation:
- Two-year Master's Degree Program in Clinical and Translational Investigation

TL1 Training Award

- Stipend is provided ($27,000 per year pre-docs/$62,000 per year early post-docs)
- Supports early career development and provides advanced degree training and practical skills to conduct interdisciplinary C/T investigation in a team research environment.
- Trainees pursue research training at 100% time and effort.

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10. Apply for Future Funding

KL2 Scholars Award

- Salary is provided ($80,000 per year salary/$12,000 per year research)
- Provides post-docs (junior faculty, senior residents, and fellows) protected time to pursue advanced training and practical skills to conduct multidisciplinary C/T research in a team environment.
- Scholars pursue research at 75% protected time (surgeons at 50% time)

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Save the Date!

- **November 2015:** Register for spring CE courses
- **November 2015:** Seed Funding and CTEP RFAs Announced
- **December 2, 2015:** Community Research Symposium *(registration open!)*
- **January 2016:** Seed Funding and CTEP Applications Due
- **Spring 2016:** Professional Development Workshops
- **Spring 2016:** SoCRA Certification Exam at WCMC
- **June 2016:** Register for fall CE courses

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We Want to Hear From You!

The CTSC is here to support all members of the research team, including research coordinators, students, faculty and staff.

Please reach out to us with specific inquiries so we can best meet the needs of the research community.

- **Research:** James P. Holahan: jph2003@med.cornell.edu
- **Education:** My Linh Nguyen-Novotny: myn2001@med.cornell.edu

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