

T32 Cancer Immunotherapy and Experimental Therapeutics Program (CIETP)

PIs: Antonio Jimeno MD PhD & Eduardo Davila, PhD

The T32 Cancer Immunotherapy and Experimental Therapeutics Program (CIETP) Research grant has two training slots for clinical trainees for the period July 1, 2021 to June 30, 2023. Research projects must be related to areas of cancer and immunology or immunotherapy.

Project eligibility

Training will encompass a 2-year period. The program will offer trainees two alternative tracks depending on the profile of the candidate and their desired career path. The options are:

- 1) Basic/Translational Science Track: mechanistic biology immunology laboratory project potentially with a translational focus.
- 2) Clinical Research Track: development of a novel clinical trial drawing upon immune-related therapies or approaches.

A mandatory requirement for all tracks is the development of either an NIH-style grant (K-award, R01/R21) or a clinical protocol in the final year of training. The training plan supports and will include basic/mandatory course work that will educate the trainee in all aspects of immunology and oncology drug development, and elective courses to customize the trainees focus.

Candidate eligibility

Any clinical trainee with a focus in Oncology is a candidate for a CIETP slot. We will consider the degree of current support from their original Programs. We anticipate that the following clinical training Programs will constitute the basis for our candidate pool:

- Hematology/Oncology fellows. The eligibility of the Developmental Therapeutics clinical fellow conducting a specialized Phase 1 Fellowship Program, and the Thoracic Oncology fellow conducting a lung cancer-oriented fellowship will be determined on a case-by-case basis.
- Radiation Oncology residents.
- Surgery trainees conducting a Surgical Oncology fellowship.
- Gynecology/Oncology fellows.
- Pediatric Hematology/Oncology fellows.
- Fast-tracked Medicine residents on a Hematology/Oncology track.
- Pathology trainees conducting a Molecular Pathology fellowship with a cancer focus.

Trainees from other clinical training Programs will be assessed on a case-by-case basis.

To be eligible trainees must be US citizens or green card holders. The CIETP and its leadership are committed to diversity. Women, under-represented minorities, and under-represented groups are strongly encouraged to apply. Trainees with a disability are also strongly encouraged to apply.

Mentor eligibility

The initial pool of mentors is listed below. While candidates are encouraged to define projects within the initial T32 CIETP mentor pool, projects with additional mentors are welcome and their suitability will be assessed by the Recruitment Committee as part of the Project Selection.

Requirements

If appointed to the CIETP Program, applicants will be required to complete the following activities based upon application track. Additional details will be provided up appointment to the CIETP Program. Please pay attention to the specific track requirements outlined below.

Basic/Translational Track

- Develop an NIH-style grant (K-award, R01/R21)
- Prepare one review article while supported by the T32
- Prepare at least one research article for publication within 2 years of admissions to CIETP
- Present at one national or local conference
- Attend the following workshops:
 - Diversity Training Workshop
 - Mentorship workshop
 - T32 Workshop
- Participate in Cancer Research Education related activities
 - Monthly tumor immunotherapy grant workshop (for physicians and lab-based faculty)
 - Weekly tumor immunology works in progress
 - Weekly T32 RIP series
 - Quarterly mentored member workshop
 - Monthly grant tumor immunology grant discussion

Clinical Research Track

- Develop one clinical trial or an NIH-style grant (K-award, R01/R21)
- Prepare one review article while supported by the T32
- Prepare at least one research article for publication within 2 years of admissions to CIETP
- Present at one national or local conference
- Attend the following workshops:
 - Diversity Training Workshop
 - Mentorship workshop
 - T32 Workshop
- Participate in Cancer Research Education related activities
 - Quarterly mentored member workshop
 - Weekly T32 RIP series

Application Components

Application Requirements: Applications should be assembled the order listed below and combined into a single PDF. At a minimum Biosketches, Project Description, and RCR Plan must be submitted in searchable PDF format.

- Cover Sheet
- NIH format Biosketch with Personal Statement
- Mentors' NIH Biosketch with Personal Statement
- Letters of recommendation – not required but welcome
- 3-page project description (Arial 11; ½” margins) – excluding references (from candidate)
 - o Specific aim / hypothesis
 - o Brief Background
 - o Brief experimental approach. Standard methodologies may be referenced.
 - o Brief statistical approach for data analysis, including sample size/power calculation.
 - o Briefly describe approach to rigor, reproducibility, and sex as a biological variable (when appropriate).
 - o Brief timeline for research activity and expected end products of your research (spanning 2 possible years of funding)
 - o References (in addition to 3-page project description)

A description of the training plan, including course requirements for CIET T32 trainees, as well as a list of potential mentors are attached. Trainees will be selected based on their proposed research and its relevance for the T32, training record of the mentor, and past academic performance of the trainee.

Applications are due no later than Monday, May 17th, 2021. The application should be submitted via smartsheets. The submission link may be found here:

<https://app.smartsheet.com/b/form/ca33eb5c7f64489cb532b3c66441d284>

Please contact Paige Diller (Paige.Diller@cuanschutz.edu) with questions.

Thank you,

Antonio Jimeno, MD PhD
Professor of Medicine
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CIETP mentor list

Virginia Borges, MD, Professor and Deputy Chief, Medical Oncology, DOM.

John Cambier, PhD, Professor, Department of Immunology.

Ross Camidge, MD PhD, Professor, Medical Oncology, DOM.

Eduardo Davila, PhD, Professor, Medical Oncology, DOM.

Robert Doebele, MD, PhD, Associate Professor, Medical Oncology, DOM.

Thomas Flaig, MD, Professor, Medical Oncology, DOM.

Terry Fry, MD, Professor, Department of Pediatric Oncology.

Lia Gore, MD, Professor and Chief, Pediatric Hematology/Oncology, Department of Pediatric Oncology.

Bryan Haugen, MD, Professor and Chief, Endocrinology, DOM.

Michael Holers, MD, Professor and Chief, Rheumatology, DOM.

Antonio Jimeno, MD, PhD, Professor, Medical Oncology, DOM.

Craig Jordan, PhD, Professor and Chief, Hematology, DOM.

Peter Kabos, MD, Associate Professor, Medical Oncology, DOM.

Traci Lyons, PhD, Assistant Professor, Medical Oncology, DOM.

Wells Messersmith, MD, Professor and Chief, Medical Oncology, DOM.

Jill Slansky, PhD, Professor, Department of Immunology.

Raul Torres, Ph.D., Professor, Department of Immunology.

Michael Verneris, MD, Professor, Department of Pediatric Oncology.

Coursework

Core didactics and a minimum of clinical and grant development activities will be mandatory. The core didactics (shown in Table 1) will be designed to focus on 1) immunology and 2) the development of novel anticancer agents. The core didactics amount to 15 credits over 2 years, which is an appropriate course load for clinical fellows that have clinical training requirements. The immunology courses are offered in coordination with the Immunology T32 curriculum and Dr. Torres.

Beyond these core requirements, each trainee's training program will be individualized so that other elective courses (shown in Table 2) or experiences can be incorporated to maximize exposure to relevant areas of research. Note that the elective courses listed above are only partially representative of the numerous courses available in the graduate programs of the Schools of Medicine and Pharmacy. These include additional Immunology courses, geared towards laboratory application of immune principles.

Table 1. Core Didactics.

Course Number	Title	Credits
IMMU 7662	Immunology	6
IMMU 7650	Research in Immunology	2
PHSC 7561	Pharmacology of Anticancer Agents	2
TXCL 7655	Pharmacokinetics and Toxicokinetics	2
CLSC 7101	Grant Writing	1
CLSC 7500 ¹	Practical Application of Molecular and Cell Biology Techniques for the Clinical Investigator	4-week lab course
CLSC 7150/7151 ²	<i>Ethics and Regulation in Human Subjects Research</i>	2
COMIRB 101/102 ^{2,3}	<i>Certification Course for Clinical Researchers/HIPAA</i>	1

Notes: ¹ All trainees will be required to take this hands-on class in common laboratory techniques used in cancer research. ² *Already taken by UCSOM clinical fellows/residents* ³ COMIRB: Colorado Multi-Institutional Review Board.

Table 2. Examples of Elective Courses

Course Number	Title	Credits
IMMU 7602	Special Topics in Cancer Immunology	1
IMMU 7603	Special Topics - Immunologic Basis of Human Disease	1
IMMU 7604	Special Topics in Signal Transduction in the Immune System	1
PHSC 7330	Issues in Drug Development	2
PHSC 7345	Principles of Drug Delivery	2
PHSC 7649	Introduction to Modern Biotechnology	1
BIOS 6648	Design of Clinical Trials and Experiments	1
PHSC 7651	Pharmaceutical Biotechnology	3
TXCL 7560/7561	Drug Metabolism and Pharmacogenetics I/II	3 (each)
BIOI 7711	Bioinformatics	2
PRMD 6630	Epidemiology	4
BIOS 6601/6602	Biostatistical Methods I/II	3 (each)
CANB 7600	Cancer Biology	3