



# **2021 SUMMER INTERNSHIPS**

## **Pediatric Oncology Education (POE) Program** **[www.stjude.org/poe](http://www.stjude.org/poe)**

The Pediatric Oncology Education program at St. Jude Children's Research Hospital is funded by the National Institutes of Health / National Cancer Institute. The POE program offers a unique opportunity for students preparing for careers in the biomedical sciences, medicine, and pharmacy to gain biomedical and oncology research experience.

The program provides short-term training experiences in either laboratory research or clinical research. Departments or divisions include:

- anesthesiology (medical students only)
- biostatistics
- bone marrow transplantation & cellular therapy (a few clinical positions for medical students and a few lab positions for others)
- cell and molecular biology
- chemical biology & therapeutics
- computational biology
- developmental neurobiology
- diagnostic imaging
- epidemiology & cancer control
- global pediatric medicine (medical students only)
- hematology
- immunology
- infectious diseases
- neuro-surgery (medical students only)
- nursing research (nursing students only)
- oncology (a few clinical positions for medical students and a few lab positions for others)
- pathology
- pharmaceutical sciences
- psychology (upper level and graduate psychology students only)
- radiation oncology
- structural biology
- surgery (medical students only)

Participants in the Pediatric Oncology Education program will receive training in a superb academic environment created by the interaction of committed basic scientists, research-oriented physicians, and postdoctoral fellows. Depending on their special interests, trainees will spend their rotations in a clinical research or a laboratory research setting. Trainees will be matched with a faculty mentor who shares their research interests and will participate in the mentor's ongoing research projects. Trainees attend a core lecture series ("Lunch & Learn") designed specifically for them, as well as other weekly St. Jude research and clinical conferences.

### **Laboratory Research Training**

Trainees engaged in laboratory research work in one of the many interesting and important areas of St. Jude oncology research. Some examples of ongoing basic science projects are studies on hematopoietic growth factors and receptor signaling; cell cycle regulation, apoptosis, the relationship between gene mutations and drug resistance, and gene editing/genome engineering. All St. Jude patients are offered whole genome sequencing of their tumors compared with normal tissue. St. Jude is increasing its use of tumor mutation data for diagnosis and therapeutic decisions (precision medicine). Thus computational biology opportunities exist. Cutting edge research is being conducted in infectious, autoimmune, and cancer immunology, and gene editing/genome engineering. Pharmacokinetic and pharmacology research involves studies of both current and new drugs, their effects on childhood cancers, and racial differences in drug metabolism. Trainees gain valuable experience in basic molecular laboratory research techniques, including cloning, cell culture, sample preparation and performing assays. They may do computer research data processing and analysis under their mentor's guidance.

### **Clinical Research Training**

Medical students will work in clinical research with physicians and staff in areas such as chart review, record screening and examination, data collection and entry. Medical students may, under faculty supervision, attend clinics and observe procedures. Trainees may perform computer research data processing and analysis under their mentor's guidance. Medical students or undergraduates with computer skills may choose diagnostic imaging projects such as MR image analysis or radiation oncology projects such as 3D treatment planning or portal image processing. Nursing students will work on nursing research projects.

### **Duration of Training**

The minimum time requirements are 10 weeks at St. Jude for students currently attending medical school and 11 weeks for all others. The student's daily schedule will depend on the research area in which they are working, but the student is expected to work full-time. POE 2021 applicants must be able to start on one of the four 2021 program start dates: Monday May 10, Monday May 17, Monday May 24, or Tuesday June 1, 2021.

### **Requirements**

Trainees **MUST** be a United States citizen, non-citizen national, or possess a visa permitting permanent residence in the United States. A student visa is not sufficient. Most POE students are highly qualified undergraduate or graduate students preparing for careers in medicine or biomedical sciences. A few are attending or have been accepted into graduate, medical, pharmacy, or nursing school. **All** applicants, including medical and graduate students, **MUST** have an undergraduate GPA of at least 3.4/4.0 GPA in the sciences and math AND at least a 3.4 overall. Applicants must have relevant research experience outside the classroom when they apply for the program. They must have completed at least their sophomore year of college when they begin the program. Please note that the POE program is a PRE doctoral program. Anyone who holds a doctoral degree (MD, PhD, PharmD, etc.) is NOT eligible and should NOT apply, unless they are currently in a second doctoral program. Medical students must be attending a US medical school.

### **Subsistence Allowance and Housing**

Undergraduate participants will receive a \$400/week subsistence allowance; all others will receive \$480/week. Group housing near our campus is available at no cost to those coming from outside the metropolitan area to participate in the program. Travel expenses are the participant's responsibility.

### **Oral and Written Reports**

At the end of appointment, all participants are required to give PowerPoint presentation on their research project as part of the Lunch & Learn series. They are also required to submit a written report on their research project in the submission style of a journal in which their mentor publishes.

### **Deadline**

**Applications for our 2021 program must be completed by February 1, 2021.**

Apply online via links on <https://www.stjude.org/poe> beginning November 1, 2020. At least one letter of recommendation must be from a research mentor. Application and submission of all credentials by mid-late December is highly recommended. Those applying after January 1 run a high risk of not having all their credentials submitted by the deadline and thus being disqualified.

Members of under-represented ethnic minority groups and women are especially encouraged to apply, since a major long-term goal of our program is to increase the diversity of persons engaged in oncology research and practice.

### **Learn more about St. Jude and our research programs**

Applicants should visit our web site to identify departments in which they would like to work. Our latest scientific report is available in interactive and PDF format via the POE home page <https://www.stjude.org/poe>

### **For further information**

Suzanne Gronemeyer, PhD, Director,  
Pediatric Oncology Education Program  
St. Jude Children's Research Hospital, MS 304  
262 Danny Thomas Place  
Memphis, TN 38105-3678

[suzanne.gronemeyer@stjude.org](mailto:suzanne.gronemeyer@stjude.org)  
<https://www.stjude.org/poe>  
<https://www.stjude.org/Gronemeyer>