2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Department	Research Project	Pg
Andrei Bakin	Cancer Genetics and Genomics	New therapeutic strategies targeting cancers with specific genetic abnormality and tumor immune microenvironment	2
Dhyan Chandra**	Pharmacology and Therapeutics	Mitochondrial Regulation of Cell Death and Resistance in Cancer	3
Gokul Das	Pharmacology and Therapeutics	Mechanisms by which Hormone Receptors and Tumor Suppressors Impact Cancer	4
John Ebos	Cancer Genetics and Genomics	Resistance and metastasis following tumor microenvironment inhibition	5
Maciej Goniewicz**	Cancer Prevention and Population Sciences	Safety of electronic cigarettes	6
Mollie Hutton	Clinical Genetics	Exploring issues related to genetic counseling/testing for hereditary cancer risk	7
Eric Kauffman	Urology	Molecular and cellular research in kidney cancer	8
Kent Nastiuk	Cancer Genetics and Genomics	Muscle loss during androgen deprivation therapy for prostate cancer, or imaging of prostate cancer	9
Michael Nemeth	Medicine	Determining mechanisms of immune dysfunction in leukemia	10
Richard O'Connor	Cancer Prevention and Population Sciences	Consumer responses to flavored tobacco products	10
Santosh Patnaik	Surgical Oncology	Experimental and computational examination of genes in cancer and immunology	11
Gal Shafirstein	Cell Stress Biology	Treatment Planning and Light Dosimetry in Photodynamic Therapy (PDT)	12
Li Tang	Cancer Prevention and Population Sciences	Gene, Diet, and their interactions contributing to cancer characteristics and prognostic outcomes	12
Yue Wu	Urology	Understanding Progression of Prostate Cancer to Castration Re-Current Disease	13
Eugene Yu	Cancer Genetics and Genomics	Genetic modeling and analysis of human diseases	13
Jianmin Zhang	Cancer Genetics and Genomics	Dysregulation of Hippo pathway signaling in breast cancer	14
Michael Feigin	Pharmacology and Therapeutics	G-protein Coupled Receptors In Cancer Progression	14
Kevin Eng	Cancer Genetics and Genomics	Integrated genomics studies of MAGE genes	15
Anna Bianchi-Smiraglia	Cell Stress Biology	Metabolic alterations in cancer	15
Ethan Abel**	Molecular and Cellular Biology	Epigenetic targeting of pancreatic cancer stem cells	16
Nitai Hait	Molecular and Cellular Biology	Mechanisms by which sphingolipid mediators impact tumor progression and metastasis	17
Prasenjit Dey	Immunology	Role of tumor microenvironment in pancreatic tumor	18
Joseph Barbi	Immunology	Exploring the mechanisms and therapeutic potential of novel factors capable of modulating immune responses.	18
Rodney Haring**	Health Behavior	Screen to Save: NCI Colorectal Cancer Screening Initiative Clinical Trial Education and Outreach	19

****- Available mentor for C-STEP Peer-Peer Mentorship Program**
#- Available mentor for CrOFTS Program

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Andrei Bakin *Dept. of* ***Cancer Genetics and Genomics*** **www.roswellpark.org/Andrei-Bakin** ***CSTEP Peer-to-Peer Program?*** *No.* **Mentoring style-** *I mentored over 15 summer students for the past 15 years participating in the program. I provide general guidance, my graduate students or lab manager will guide in specific experimental techniques.* **Expectations of summer student-**	**Scientific Research** Cancer genetics;Cancer molecular and cellular biology;Tumor immunology & immunotherapy	**New therapeutic strategies targeting cancers with specific genetic abnormality and tumor immune microenvironment** Metastatic breast cancer (MBC) is a deadly disease and novel therapeutic approaches are urgently needed. The tumor microenvironment (TME) has evolved as a complex and dynamic network of intercellular interactions that influences tumor formation, progression, and response to therapy. To this end, we identified a specific signaling pathway that controls immune composition of tumor microenvironment. The goal of the proposed study is to dissect the effect of systemic blockade of this pathway on immune cell populations in the TME using single-cell RNA sequencing technology. The second project involves research on the drug combinations in genetically defined models of breast and pancreatic cancer. The goal is to optimize the drug combination regimen for treatment of patients with breast or gastric cancers. Students will become familiar with the following Techniques: mammalian cell culture, immunoblotting (western), RT-qPCR, flow cytometry, microscopy (bright field and IF), CRISPR technology, scRNA sequencing; potentially with animal studies using mouse and patient-derived material (PDX). **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Dhyan Chandra *Dept. of* ***Pharmacology and Therapeutics*** **www.roswellpark.org/Dhyan-Chandra** ***CSTEP Peer-to-Peer Program?*** Yes **Mentoring style-** *Provide opportunities to brainstorm ideas. Encourage student to ask questions. Guide student to develop collaborative skills to understand scientific research project.* **Expectations of summer student-** *I expect summer students to learn new ideas and approaches. I expect them to brainstorm these ideas/approaches during laboratory meeting or discussion. These activities will help student developing independent thinking process in scientific research.*	**Scientific Research** Cancer molecular and cellular biology;Cancer pharmacology and therapeutics; Urology	**Mitochondrial Regulation of Cell Death and Resistance in Cancer** The main focus of our research is to understand the molecular basis of therapy resistance in multiple cancer types including in prostate, breast, pancreatic, and colon cancers. To accomplish our goals, we are investigating two different, but complementary projects. The first project delineates how mitochondria-mediated cell death signaling is defective in cancer cells and cancer stem cells. The second project defines the role of heat-shock proteins in cancer cell survival and death. We are also characterizing the role of mitochondria in health disparities among prostate and breast cancer patients. Our research suggests that protein complexes are important regulators of cancer cell death and survival. We use multiple biochemical, genetic, cellular, mouse models of cancer, and molecular approaches to identify and characterize protein complexes in subcellular compartments including in the mitochondrion. Detailed understanding of protein complexes will lay a foundation for targeting cell death and survival machinery for cancer therapy. Our model systems include both laboratory cell culture, patient-derived models, and mouse models of cancer to examine cellular signaling in response to anticancer agents. Our ultimate goals are to understand mitochondrial biology in cancer and target mitochondria for prevention and therapy of multiple types of cancer. **Project phase:** Discovery- initial probing of scientific problem using established methods with a concentration on techniques, data analysis

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Gokul Das *Dept. of* ***Pharmacology and Therapeutics*** **www.roswellpark.org/Gokul-Das** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style**- *I motivate the students to think. Myself and senior people in the laboratory will discuss the project and guide you through the experiments on the bench. Students are encouraged to present their experimental data (whether the experiment succeeds or fail at times) at the weekly lab meetings. The lab meetings are semi-formal with all members participating in open discussions and brainstorming.* **Expectations of summer student-** *The student should be highly motivated and inquisitive and be willing to read research publications relevant to the topic of research. The student should attend the weekly laboratory meeting. The student should maintain detailed records of the laboratory experiments on a daily basis.*	**Scientific Research** Cancer genetics; Cancer molecular and cellular biology; Cancer pharmacology and therapeutics	**Mechanisms by which Hormone Receptors and Tumor Suppressors Impact Cancer** The research in Das lab focuses on understanding the cellular and molecular mechanisms of cancer, especially breast ,lung, and ovarian cancers and how to exploit them for developing new therapeutic strategies. For example, we are analyzing the role of hormone receptors (such as the estrogen receptor) and tumor suppressors (such as the p53 protein) in cancer onset and progression using cell culture and mouse tumor models. Summer projects will involve modern cellular and molecular biological techniques. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

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John Ebos *Dept. of* ***Cancer Genetics and Genomics*** **www.roswellpark.org/John-Ebos** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *As a group we come to the lab everyday and push ourselves to be as conceptually innovative and creative as possible, we see no limits to how much we can invest, know, read, or test experimentally. As a mentor I try to bring out your best in these areas and work on things that are needed in any profession, such as writing, speaking, and problem solving.* **Expectations of summer student-** *Current lab members include late-stage PhD students who are exceptionally committed to their projects and represent model examples of work ethic and intellectual investment, so there is an excellent opportunity for strong mentorship by committed teachers. An ideal summer student is someone who can give their best effort to learn from these examples, and match the enthusiasm in the lab.*	**Scientific Research** Cancer molecular and cellular biology; Cancer pharmacology and therapeutics; Tumor immunology & immunotherapy; Surgical Oncology; Cancer genetics; Medical Oncology; Cancer bioinformatics; Cancer biostatistics	**Resistance and metastasis following tumor microenvironment inhibition** Student will use clinically relevant models of spontaneous metastatic disease to study resistance to antiangiogenic (VEGF pathway) and immunecheckpoint (PD-1 pathway) inhibitors. Student will be mentored by experienced trainees and learn several novel techniques **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

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Maciej Goniewicz *Dept. of* ***Cancer Prevention and Population Sciences*** **www.roswellpark.org/Maciej-Goniewicz** ***CSTEP Peer-to-Peer Program?*** **Yes** **Mentoring style-** *Meetings in person at least once a week to discuss progress and challenges in experiments. Weekly presentations to my lab team. Meetings in person to discuss conference submission.* **Expectations of summer student-** *Conduct a pilot experiments. Collect the preliminary data. Prepare and submit at least one abstract for scientific conference or one manuscript for peer-reviewed journal.*	**Scientific Research** Cancer prevention and epidemiology; Public Health	**Safety of electronic cigarettes** Research projects are focused on new nicotine-containing products and alternative forms of tobacco. We examine safety and efficacy of electronic nicotine delivery devices, commonly called e-cigarettes. These studies include the laboratory evaluation of the products, pharmacological and toxicological assessment, surveys among their users, and their potential application in harm reduction, cancer prevention and smoking cessation. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Mollie Hutton *Dept. of **Clinical Genetics*** **www.roswellpark.org/Mollie-Hutton** ***CSTEP Peer-to-Peer Program?*** **No** **Mentoring style-** *I am supportive and have an open door for questions. I do not micromanage and instead will challenge a mentee to develop ideas and problem solve on their own.* **Expectations of summer student-** *Complete a clinical research project, likely existing data review including review of past medical records, genetic pedigree and genetic test result for data collection. Assessment of data and formulation of conclusion. Also will shadow with the genetic counselors in the clinic and assist in pedigree construction and drafting of patient materials.*	**Clinical Research** Clinical genetics	**Exploring issues related to genetic counseling/testing for hereditary cancer risk** This internship is directed toward students specifically planning to pursue a graduate degree in genetic counseling. Students will complete clinical observations (a requirement when applying to graduate programs in genetic counseling) as well as gain val **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Eric Kauffman *Dept. of* ***Urology*** **www.roswellpark.org/Eric-Kauffman** ***CSTEP Peer-to-Peer Program?*** **Mentoring style-** *na* **Expectations of summer student-** *na*	**Scientific Research** **Clinical Research** Cancer genetics; Cancer molecular and cellular biology; Cancer pharmacology and therapeutics; Urology; Medical Oncology; Surgical Oncology; Other (please specify);Radiology ; Cancer bioinformatics; Cancer biostatistics; Tumor immunology & immunotherapy	**Molecular and cellular research in kidney cancer** Our lab focus is on the discovery of key molecular alterations responsible for kidney cancer formation and progression, including two main projects. Students will acquire or improve basic laboratory experience working with kidney cancer cells or mice with kidney cancers. The first project is focused on the role of iron metabolism and resulting oxidative stress in the development and progression of kidney tumors. Our work has confirmed higher iron levels in kidney cancers than in benign kidney tissue; and shown that kidney cancer cells (but not benign kidney cells) require iron for growth and survival. In rodents, giving high levels of iron leads to mouse kidney cancers which morphologically mimic human kidney cancers. We are now generating a genetically engineered variant of these moues kidney cancers that harbor the same gene mutation as found in almost all human kidney cancers, allowing us to better study the disease. Our goal is to characterize the key signaling pathways, immune cell types, and genomic alterations found in these mouse kidney cancers, including comparison with the human disease. This work includes bioinformatics opportunities for students with an interest. For those students with interests in Radiology, we also are studying the use of MRI for radiologic characterization of these mouse kidney cancers. In parallel, I also lead research in human kidney cancers that spontaneously regress without any treatment, which is a surprisingly frequent event in patients that we hypothesize may be immune-mediated. Learning how this intriguing phenomenon occurs may lead to new therapeutic strategies to trigger tumor regression. Ongoing work aims to characterize the genomic alterations and immune cells found in these spontaneously regressing cancers. For students with an in interest in bioinformatics and computation biology, or in tumor immunology, this project may be of interest. **Clinical research in kidney cancer patients** This internship involves clinical data abstraction and analysis for patients diagnosed with kidney cancer at Roswell Park who have been treated with surgery or managed non-operatively with active surveillance. Comprehensive patient databases within the D **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Kent Nastiuk *Dept. of* ***Cancer Genetics and Genomics, Urology*** **www.roswellpark.org/Kent-Nastiuk** ***CSTEP Peer-to-Peer Program?*** *No.* **Mentoring style-** *My ultimate goal is to give the trainee experience as an independent researcher. I think this requires working collaboratively to tackle a significant problem, but give the time limits, this is likely limited to a small part of a larger project. My role is to develop both technical and critical thinking skills, while helping the trainee to gain both the specific and broad knowledge necessary to produce new knowledge. I see success as clear communication of the products of the internship.* **Expectations of summer student-** *I value students of diverse backgrounds with a passion for science, and both strong quantitative and critical thinking skills. I expect students to: 1) communicate! 2) work hard during your limited time in the lab 3) be a good lab citizen 4) be flexible! Sometimes science doesn't take you down the path you expect. I expect summer students will attend all appropriate lab meetings and seminars.*	**Scientific Research** Cancer experimental diagnostics; Cancer genetics; Cancer molecular and cellular biology; Cancer pharmacology and therapeutics; Urology	**muscle loss during androgen deprivation therapy for prostate cancer, or imaging of prostate cancer** My lab studies androgen regulated growth and apoptosis signaling pathways in prostate cancer. Androgen deprivation therapy (ADT) causes frailty so a major focus is examining the mechanism of ADT-induced muscle loss. We are also developing targeted molecular agents for both MR and PA imaging of prostate cancer (with Hans Schmitthenner, RIT). Interns will tackle a small chunk of one of these projects. **Project phase:** Discovery- initial probing of scientific problem using established methods with a concentration on techniques, data analysis

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Michael Nemeth *Dept. of* ***Medicine*** **www.roswellpark.org/Michael-Nemeth** ***CSTEP Peer-to-Peer Program?*** No. **Mentoring style-** *Will provide hands-on training and mentorship at the beginning of the program and will give the student more independence as they demonstrate increased capability* **Expectations of summer student-** *Summer student should be able to perform experiments with decreasing levels of direct supervision as the summer progresses*	**Scientific Research** Tumor immunology & immunotherapy	**Determining mechanisms of immune dysfunction in leukemia** The overall goal of this project is to elucidate aspects of the mechanisms that regulate the progression of bone marrow failure diseases to acute myeloid leukemia. The focus of this project will be on the impact of immune dysfunction on disease progression. This project will involve the use of pre-clinical models as well as primary patient samples. **Project phase:** Elements of all three (Design, Discovery, Validation)
Richard O'Connor *Dept. of* ***Cancer Prevention and Population Sciences*** **www.roswellpark.org/Richard-O'Connor** ***CSTEP Peer-to-Peer Program?*** **No** **Mentoring style-** *I allow and expect interns to work independently. I will set up weekly meetings to discuss goals and progress.* **Expectations of summer student**- *I expect interns to produce high-quality work product in a professional manner. Interns should take direction and work on tasks diligently, and ask questions when unsure of how to proceed.*	**Scientific Research** Cancer prevention and epidemiology; Regulatory Science	**Consumer responses to flavored tobacco products** Students will have the opportunity to participate in exciting ongoing research in tobacco regulatory science as a part of our Western New York Center for Research on Flavored Tobacco Products, one of 9 Tobacco Centers of Regulatory Science in the US. Interns will assist with data processing from several studies examining consumer's cognitive and sensory responses to flavored electronic cigarettes. Activities would include secondary analysis of existing datasets, observing data collection from ongoing studies, and helping to prepare materials for upcoming research studies. **Project phase:** Discovery- initial probing of scientific problem using established methods with a concentration on techniques, data analysis

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Santosh Patnaik *Dept. of* ***Surgical Oncology*** **www.roswellpark.org/Santosh-Patnaik** ***CSTEP Peer-to-Peer Program?*** **No** **Mentoring style-** *Full guidance when needed; encouragement to explore.* **Expectations of summer student-** *The student is curious, communicative, and has a sense of responsibility for the project.*	**Scientific Research** Cancer bioinformatics; Cancer biostatistics; Cancer genetics; Cancer molecular epidemiology; Cancer pharmacology and therapeutics; Tumor immunology & immunotherapy; Surgical Oncology; Cancer molecular and cellular biology; Radiation Oncology	**Experimental and computational examination of genes in cancer and immunology** We are interested in genetics (gene mutations, gene expression, etc.), epigenetics (microRNAs, RNA editing, etc.), and metabiomics (microbiome, etc.) as it pertains to cancer and the human body's immunological response to it. These are very broad areas, and allow a visiting student to contribute their ideas to develop an exciting yet feasible project to carry out during their stay. The project work will involve one or more of the following: (1) Cell biology: cell culture, genetic engineering of cells, etc. (2) Molecular biology: various DNA, RNA, and protein assays, including their development. (3) Animal biology: growing foreign tissue/cells in the mouse, analysis of DNA/RNA/proteins of mouse, etc. (4) Patient biology: various assays of diseased tissues, including association with clinical parameters; (5) Computation: large-scale data analysis, data visualization, bioinformatics, software programming, etc. As a mentor, my goal will be to help the visiting student attain the following: (1) Experience these aspects of scientific research: collate facts from published knowledge and knowledgeable individuals; use facts and imagination to generate hypotheses and exploratory ideas; design, prepare for, and execute experiments; collect, analyze, and present data; set forth a future direction. (2) Learn some common biomedical or computational research techniques. (3) Bring to completion during the student's stay a small but independent project that the student helps with the design, execution, and analysis of. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Gal Shafirstein *Dept. of* ***Cell Stress Biology*** **www.roswellpark.org/Gal-Shafirstein** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *A teamwork that includes students, faculty and outside collaborators. Use weekly lab meetings for reporting results, presentation of new ideas. I have an open-door policy for research discussions as needed.* **Expectations of summer student-** *Conduct experiments with supervision from graduate students in the lab. Document the work done. Record results. Present results and plans in our weekly lab meetings.*	**Scientific Research** Photodynamic Therapy; Cancer biophysics	**Treatment Planning and Light Dosimetry in Photodynamic Therapy (PDT)** My research team is focused on the development and implementation of treatment planning and light dosimetry in PDT. My group includes, 2 engineers, 2 research scholars and 3 pre-doctoral student. We do preclinical and clinical studies, and investigate combination therapies. **Project phase:** Elements of all three (Design, Discovery, Validation)
Li Tang *Dept. of* ***Cancer Prevention and Population Sciences*** **www.roswellpark.org/Li-Tang** ***CSTEP Peer-to-Peer Program?*** **No.** **Mentoring style-** *I believe that teaching is to introduce but not to force-feed knowledge.* **Expectations of summer student-** *The expectation is that the summer student may be inspired and prepared to embark on the pursuit of careers in biomedical research.*	**Scientific Research** Cancer molecular epidemiology; Cancer prevention and epidemiology	**Gene, Diet, and their interactions contributing to cancer characteristics and prognostic outcomes** Our research program is engaged in molecular epidemiological study of cancer and is developed in two directions with a central theme of enhancing treatment efficacy and improving cancer prognosis. The first direction is to understand the role of gene-diet interaction in cancer prognosis and treatment outcome. The primary focus is on cruciferous vegetables and their key anti-cancer effectors, the phytochemical isothiocyanates. The second research direction is to understand the biological basis for cancer characteristics. The particular interest is in genetic and epigenetic contributions to racial disparities in cancer aggressiveness. The goal is to target high risk population with specific lifestyle and/or dietary intervention approaches to decrease cancer mortality. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Yue Wu *Dept. of* ***Urology*** **www.roswellpark.org/Yue-Wu** ***CSTEP Peer-to-Peer Program? No.*** **Mentoring style-** *i would like to mentor through active discussions, and would like the student to be able to bring their own questions to the discussions.* **Expectations of summer student-** *A summer student would be an active thinker, and has basic skills to mange PowerPoint and Excel.*	**Scientific Research** Cancer molecular and cellular biology; Cancer molecular epidemiology; Cancer pharmacology and therapeutics; Cancer prevention and epidemiology; Cancer bioinformatics; Cancer genetics; Urology; Medical Oncology	**Understanding Progression of Prostate Cancer to Castration Re-Current Disease** My research interest is in microenvironment of cancer - how cancer cells, endothelial cells and stromal cells interact with each other, and how the interactions affect cancer cell growth. Prostate cancer models are used primarily in my lab. The ultimate goal is to delineate mechanisms that drive progression of androgen-stimulated prostate cancer to castration-resistant prostate cancer, and to identify novel modalities to prevent or treat castration-resistant prostate cancer. **Project phase:** Discovery- initial probing of scientific problem using established methods with a concentration on techniques, data analysis
Y. Eugene Yu *Dept. of* ***Cancer Genetics and Genomics*** **www.roswellpark.org/Y. Eugene-Yu** ***CSTEP Peer-to-Peer Program?*** No. **Mentoring style-** *We will provide a supportive and creative research environment.* **Expectations of summer student-** *We have the following expectations: Understanding the project, Learning the necessary lab techniques, Gradually becoming independent, Being a supportive and constructive team member, Learning the skills to overcome scientific and technical obstacles, Enjoying being a scientific experimentalist.*	**Scientific Research** Cancer genetics; Cancer molecular and cellular biology	**Genetic modeling and analysis of human diseases** One of the focuses is molecular genetic analysis of trisomy 21. We are also interested in the mouse-based genetic dissection of tumor-associated chromosomal rearrangements. Such efforts should facilitate the establishment of critical genetic alterations in the formation of various types of tumors. **Project phase:** Discovery- initial probing of scientific problem using established methods with a concentration on techniques, data analysis

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Jianmin Zhang *Dept. of* ***Cancer Genetics and Genomics*** **www.roswellpark.org/Jianmin-Zhang** ***CSTEP Peer-to-Peer Program?*** No. **Mentoring style-** *na* **Expectations of summer student-** *na*	**Scientific Research** Cancer genetics; Cancer molecular and cellular biology	**Dysregulation of Hippo pathway signaling in breast cancer** Using molecular, cellular and biochemical approaches as well as the 3-D cell culture system and mouse models, we are intensively investigating the roles of EMT and the Hippo signaling pathway in the initiation and progression of solid carcinomas, e.g., breast cancer. **Project phase:** Elements of all three (Design, Discovery, Validation)
Michael Feigin *Dept. of* ***Pharmacology and Therapeutics*** **www.roswellpark.org/Michael-Feigin** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *I work with each student to make sure they understand their project, why they are doing each experiment, and how to interpret experimental results.* **Expectations of summer student-** *I expect summer students to be honest, work hard, and think critically about their experiments. And have fun!*	**Scientific Research** Cancer bioinformatics; Cancer genetics; Cancer molecular and cellular biology; Cancer pharmacology and therapeutics	**G-protein Coupled Receptors In Cancer Progression** Our lab seeks to understand the molecular causes of cancer in order to develop better therapies and improve patient outcome. We employ a variety of methods, from computational analysis to biochemistry, 3D cell culture and mouse models. We are looking for motivated and enthusiastic students to join a new and growing lab. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Kevin Eng *Dept. of* ***Cancer Genetics and Genomics*** **www.roswellpark.org/Kevin-Eng** ***CSTEP Peer-to-Peer Program?*** No. **Mentoring style-** *I have a strong developmental psych approach: "+1" I try to assess where mentees are and to figure out how to advance them one extra step along the way to their career and scientific goals.* **Expectations of summer student-** *Bench focused first with strong interest in clinical context of the work. · Amenable to systems biology focus: big systems and integration of ideas across levels of molecular biology. Able to give and receive criticism. An active participant in peer review.*	**Scientific Research** Cancer bioinformatics; Cancer biostatistics; Clinical genetics; Cancer molecular epidemiology; Cancer molecular and cellular biology; Cancer genetics	**Integrated genomics studies of MAGE genes** Hybrid cancer genetics/computational biology research group centered around the study of a family of tumor suppressor genes. We offer students a combination of projects. Experimental projects: standard cell culture, protein proximity, inducible expression. Data analysis projects: RNAseq, DNAseq, single-cell sequencing. R\Bioconductor required for computational only. **Project phase:** Elements of all three (Design, Discovery, Validation)
Anna Bianchi-Smiraglia *Dept. of* ***Cell Stress Biology*** **www.roswellpark.org/ Anna-Bianchi-Smiraglia** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *Open door policy for any question, suggestion, issue, etc. Ready to lend a hand when needed but not constantly over people's shoulder. Promoting independence and critical thinking* **Expectations of summer student-** *To be curious about science and the work being performed. To be responsible and committed. To work with integrity and as a team player.*	**Scientific Research** Cancer molecular and cellular biology	**Metabolic alterations in cancer** We have two projects running in the lab: the first one revolves around the role of GTP metabolic enzymes to support the growth and metastasis of triple negative breast cancer cells. The second one is investigating the role of the aryl hydrocarbon receptor in MYCN-amplified neuroblastoma. **Project phase:** Elements of all three (Design, Discovery, Validation)

Ethan Abel *Dept. of* ***Molecular and Cellular Biology*** **www.roswellpark.org/Ethan-Abel** ***CSTEP Peer-to-Peer Program?*** Yes **Mentoring style-** *As a new investigator, my mentoring approach is very hands-on. I typically go into great detail with trainees as to what the hypothesizes we are trying to answer are, what techniques we will use to answer it and why, and the actual principles behind the techniques. I typically demonstrate techniques first, followed allowing students to do techniques in supervised manner until they are proficient, but remain regularly within reach for experimental guidance, technical support, or anything else a student has questions regarding.* **Expectations of summer student-** *By the end of their time in the lab a summer student should be able to become proficient in a small number of routinely used techniques/approaches (generally 5 or less), and with guidance/supervision carry out a set of pre-designed experiments in a reproducible manner (at least 3 times) so that some conclusions regarding the questions behind the experiments can be confidently made (e.g. results support or refute the hypothesis). Students should gain a general/basic understanding of field the lab is in and the lab's overall research interests/goals and a solid understanding of why the experiments they are conducting are being done (e.g. what is their project about). I expect all trainees to be excited, hardworking, careful, honest, and mutually respectful so as to promote and maintain a collaborative work environment that*	**Scientific Research** Cancer molecular and cellular biology; Cancer pharmacology and therapeutics	**Epigenetic targeting of pancreatic cancer stem cells** Students will test the effects of drugs called BET-inhibitors on pancreatic cancer stem cells (PCSCs), which are a subtype of cancer cell that fuels the tumor, as well as the interplay between BET-inhibitors and proteins that drive PCSCs. Students will use human cancer cells as models, and utilize protein, RNA, and DNA analyses in their studies. **Project phase:** Elements of all three (Design, Discovery, Validation)

Mentor	Research Areas	Project description
conducts high-quality science at all times.		

Mentor	Research Areas	Project description
Nitai Hait *Dept. of* ***Molecular and Cellular Biology*** **www.roswellpark.org/Nitai-Hait** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *As a mentor, I will be supportive and enthusiastic with students. I will help students generating a hypothesis, exploratory ideas, designing and execute experiments, collect data, analyze and present data, finally, a publishable figure.* **Expectations of summer student-** *During the internship, the student should have the motivation to learn, gathering knowledge, and hands-on experiences.*	**Scientific Research** Cancer molecular and cellular biology; Cancer pharmacology and therapeutics	**Mechanisms by which sphingolipid mediators impact tumor progression and metastasis** My research interests focus on the role of sphingolipid mediators, sphingosine-1-phosphate (S1P), and ceramide-1-phosphate (C1P) in breast cancer progression and metastasis. We use patient-derived 3D cell models, molecular biology techniques, and genetic animal models to study sphingolipid mediators signaling in inflammation and cancer. We are also interested in identifying novel molecular targets and underlying mechanisms of actions for tumor metastases. Significant projects: i) to determine the role of S1P as a cofactor in regulating master transcription factors (HIFs, STATs, NF-kB) functions in tumor metastasis; ii) to determine the role of C1P/ceramide kinase in tumor metastasis; iii) to determine the role of sphingolipid mediators in the tumor microenvironment and metastasis. We have various small projects on the role of mediator signaling in the tumor microenvironment and metastasis suitable for students. Student can be a co-author for peer-review publications. **Project phase:** Validation- confirming previous data/results with a concentration on techniques, data interpretation and science reporting; potential for contributing to a scientific paper

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Prasenjit Dey *Dept. of* ***Immunology*** **www.roswellpark.org/Prasenjit-Dey** ***CSTEP Peer-to-Peer Program?*** No **Mentoring style-** *Folks in my lab are highly collaborative and we work as a team.* **Expectations of summer student-** *You will be exposed to various molecular biology, immunology, genetics and biochemistry tools. Along with that you will see how tumor evolves in animal model of cancer.*	**Scientific Research** Cancer genetics; Cancer molecular and cellular biology; Tumor immunology & immunotherapy	**Role of tumor microenvironment in pancreatic tumor** A major component of tumor microenvironment is the secreted factors arising from infiltrating immune cells, stroma, intra-tumor microbiome and cancer cells itself, which shapes the overall trajectory of the disease. We will evaluate the components that directly support pancreatic cancer initiation, progression and metastasis. and progression. **Project phase:** Elements of all three (Design, Discovery, Validation)
Joseph Barbi *Dept. of* ***Immunology*** **www.roswellpark.org/Joseph-Barbi** ***CSTEP Peer-to-Peer Program?*** **Yes** **Mentoring style-** *Moderate hands-on technical training coupled with an emphasis on independent thought and interest-driven project steering.* **Expectations of summer student-** *Learn cutting edge and proven techniques and become familiar with primary scientific literature pertinent to the project. Perform experiments, collect data, and assist in the analysis of results.*	**Scientific Research** Tumor immunology & immunotherapy	**Exploring the mechanisms and therapeutic potential of novel factors capable of modulating immune responses.** The immune system's destructive potential is regulated by numerous regulatory mechanisms. By understanding these we can devise novel therapies to unleash optimal anti-tumor responses in cancer patients. These studies will utilize in vitro assays of immune cell function, in vivo (mouse) tumor models, and fluorescence-based techniques for visualizing immune cells. **Project phase:** Elements of all three (Design, Discovery, Validation)

2021 Mentor Directory: Summer Research Experience Program in Cancer Science

Mentor	Research Areas	Project description
Rodney Haring ***Dept. of Cancer Prevention and Population Sciences; Center for Indigenous Cancer Research*** **www.roswellpark.org/Rodney-Haring** ***CSTEP Peer-to-Peer Program?*** **Yes** **Mentoring style-** *Respectful partnership in learning by creating bi-directional learning spaces and the encouragement of peer to peer work. I also work with community leaders and cross-mentor at both the community level and within various departments to offer a rounded experience for growth and success.* **Expectations of summer student-** *Open to learning about cultural nuances between western science and Indigenous science, respectful in building community relationships with an interest in writing and publishing.*	**Scientific Research** Cancer prevention and epidemiology	**Screen to Save: NCI Colorectal Cancer Screening Initiative Clinical Trial Education and Outreach** The purpose of the initiative is to implement a culturally sensitive, evidence-based nationwide colorectal cancer (CRC) outreach and screening initiative with community health educators. The community health educator at Roswell will partner with key community based organizations and clinical centers to conduct culturally tailored CRC outreach activities and disseminate CRC information, education, and screening tools, such as FIT kits, among racially and ethnically diverse populations. Aims include delivery of key messages related to CRC; using pre/post tests and follow up surveys to assess CRC awareness; adapting CRC education and text messaging for Native and rural communities; and implementing culturally-tailored, community-and-clinically based cancer outreach and education to clinical trials (CT). **Project phase:** Currently in year two of the two-year project and implementing CRC and CT outreach and education, including follow-up surveys and data collection. **A novel sugar-sweetened beverage reduction intervention for Native American men** The purpose of this study is to adapt an evidence-based Sugar Sweet Beverage (SSB) intervention (SIPsmartER) that reduces SSB intake so it is culturally appropriate for Native American men (SIPsmartER Lacrosse). The specific aim is to create an evidence-based culturally appropriate Sugar Sweetened Beverage (SSB) intervention for Native American men (SIPsmartER Lacrosse). **Project phase:** Currently in year one of a two-year project. Currently **c**onducting and analyzing qualitative data from focus groups and key informant interviews with Native American community members including Native American leaders and community members to develop SIPsmartER Lacrosse.