Open Postdoctoral Positions

Department	Faculty Member	Research Topic
Biostatistics	Motomi Mori	Basic, translational, clinical, and population science
Cell and Molecular Biology	Stacy Ogden	Mechanisms of Hedgehog signal transduction
	Chi-Lun Chang	Organelle Communication Studies
Chemical Biology & Therapeutics	Taosheng Chen	Small-molecule transcription factor drug discovery
Computational Biology	Brian J. Abraham	Gene expression regulation in healthy and diseased mammalian cells
	Paul Geeleher	Leveraging machine learning and statistics for targeted therapeutics
	Xiaotu Ma	Molecular mechanisms of cancer initiation and clonal evolution
Developmental Neurobiology	Jay Bikoff	Functional organization of spinal interneurons
	Paul Northcott	Developmental and molecular basis of Medulloblastoma
Hematology	John Crispino	Biology of normal and malignant hematopoiesis
	Marta Derecka	Hematopoiesis & the bone marrow microenvironment
	Mitchell Weiss (with Yong Cheng)	Blood development and associated diseases
	Wilson K. Clements	Adult hematopoietic system in vertebrates
	Shengdar Tsai	Genome editing technologies for therapeutic treatment of genetic disorders
Host-Microbe Interactions	Jason Rosch	Host-pathogen interactions and antibiotic resistance
	Victor J. Torres	Complex interactions between pathogenic bacteria and mammalian host
Immunology	Hongbo Chi	Cellular signaling in innate and adaptive immunity
	Yong Feng	Mechanisms of T cell tolerance in autoimmunity and anti-tumor immunity
	Thirumala-Devi Kanneganti	Mechanisms of host defense and inflammation
Oncology	Anand Patel	Treatment persistence and metastasis in rhabdomyosarcoma
	Charles Roberts	SWI/SNF (BAF) chromatin remodeling/tumor suppressor
	Esther Obeng	Myeloid malignancies and bone marrow failure syndromes
Pharmaceutical Sciences	Samuel Brady	Therapeutic vulnerabilities and resistance mechanisms from genomic alterations
Structural Biology	Chia-Hsueh Lee	Structure and molecular mechanisms of membrane proteins
	Madan Babu	Data-driven exploration of sequence-function and structure-function relationships
	Scott Blanchard	Mechanics of biological systems
	Tanja Mittag	Tumor Suppressor Structures with cryo-EM
	Ji Sun	Study of disease-causing protein complexes
Surgery	Andrew Davidoff	Novel gene therapy and small molecule techniques in solid tumor treatment
	Jun Yang	Biological function of enzymes in high-risk solid tumors

Biostatistics

Motomi Mori, PhD **Basic Translational, Clinical and Population Science**

The Mori Lab is seeking a candidate for a postdoctoral fellowship in biostatistics methods and applications involving pediatric cancer and catastrophic diseases. Positions are available in diverse biostatistics research areas, including designs of early-phase clinical trials, epidemic modeling and microsimulation methods, machine learning, high-dimensional data analysis, integrative omics analysis, survival analysis, and longitudinal analysis data. St. Jude leads two of the world's largest pediatric survivorship research studies, St. Jude LIFE and the Childhood Cancer Survivor Study, and has the largest pediatric cancer genome database, St. Jude Cloud. A position is available in statistical research to develop and improve individualized treatment rules using machine learning methods on electronic health records data and clinical trial studies.

Requirements: Ph.D. in statistics, biostatistics, or a closely related field is required. The appointment is for two years. Applicants must have a strong computational background and demonstrate excellent written and verbal communication skills.

Cell and Molecular Biology

Stacey Ogden, PhD **Mechanism of Hedgehog Signal Transduction**

Postdoctoral positions are available in the laboratory of Dr. Stacey Ogden to research mechanisms of Sonic Hedgehog signaling during development. They are particularly interested in understanding how Sonic Hedgehog ligands use specialized filopodia called cytonemes to travel from their sites of synthesis to activate signaling on distantly localized target cells. Other focus areas in the laboratory include investigations centered on how Sonic Hedgehog signaling is activated in signal-receiving cells and how GLI transcriptional effectors are regulated to ensure appropriate transcriptional responses occur downstream of ligand. They use genetic model systems and cutting-edge imaging technologies to interrogate these fascinating cell biological questions.

Requirements: Prior experience with mouse models and confocal microscopy is preferred, but not required.

Chi-Lun Chang, PhD **Organelle Communication Studies**

A postdoctoral position is available in the Chang lab. They are looking for highly talented, self-motivated individuals passionate about how organelles communicate. In particular, the candidate will interrogate the fundamental questions of ER-to-Golgi trafficking via cutting-edge light and electron microscopy, genome-editing, biochemistry and *in vitro* reconstitution approaches. Creativity, dedication, and the ability to work collaboratively in a small group are prerequisites.

Requirements: Experience in basic cell and molecular biology, biochemistry, microscopy, and imaging analysis are preferred.

Chemical Biology & Therapeutics

Taosheng Chen, PhD **Small-Molecule Transcription Factor Drug Discovery**

The Chen lab studies the role of PXR and CAR (ligand-regulated transcription factors) in regulating drug-induced liver toxicity and cancer drug resistance. The lab develops novel chemical probes/therapeutic leads and uses them to interrogate the function of PXR and CAR in order to overcome drug toxicity and drug resistance in cellular and animal models. Available projects: 1) Lead optimization of small molecule modulators of PXR and CAR (medicinal chemistry & structure-based approach), 2) In vitro and in vivo validation of novel small molecule modulators of PXR and CAR in regulating drug metabolism, toxicity, and resistance (pharmacological approach), 3) Regulation of PXR and CAR signaling pathways (multidisciplinary approach).

Requirements: PhD or MD. Biologists, pharmacologists, medicinal chemists, or structural biologists are encouraged to apply. Experience in one of the following areas is required: cell and molecular biology, biochemistry, pharmacology, medicinal chemistry, or structural biology.

Computational Biology

Brian J. Abraham, PhD **Gene Expression Regulation in Healthy and Diseased Mammalian Cells**

The Abraham lab is seeking a postdoctoral research associate to study the roles of gene regulation, genome structure, and nuclear organization in pediatric cancers. The candidate will be part of the 3D Genome Collaborative Research Consortium formed by distinguished researchers at St. Jude, Dana-Faber Cancer Institute, and MIT. Responsibilities will include analyzing data generated from various second- and third-generation sequencing applications that interrogate a broad range of human gene regulatory biology under investigation by the Consortium. The successful candidate will become a fundamental component of a multidisciplinary, inter-institutional team assembled to study how genome structures meaningfully differ between normal and pediatric cancer cells.

Requirements: Ideal candidates will have experience building, tailoring, and deploying analysis pipelines using widely available genomic analysis toolkits (e.g. bedtools, samtools), as well as experience managing large numbers of datasets. Additional experience in fundamental understanding of gene expression mechanisms (e.g. transcription factors, enhancers, genome structure, and transcriptional condensates), and experience building succinct, clear figures using R are preferred.

Paul Geeleher, PhD **Leveraging Machine Learning and Statistics for Targeted Therapeutics**

The Geeleher Lab is seeking outstanding candidates for fully supported postdoctoral fellowships focused on developing innovative computational and statistical approaches to inform and improve therapies for pediatric cancer and other diseases. Current research areas include developing machine learning approaches for integration of pre-clinical, clinical genomics and electronic health record data for drug re-purposing and pharmacogenomics of anticancer agents and developing statistical methods for integrating single cell and bulk tissue expression data to understand the relationship between common inherited genetic variation, gene expression, and drug response.

Requirements: Candidates must hold a doctoral degree (Ph.D., M.D. or equivalent). Applicants with a Ph.D. in a quantitative field (computational biology, genetics/genomics, statistics, mathematics, computer science & related fields) are encouraged to apply. Strong candidates from a primarily wet-lab or clinical background who wish to develop sophisticated quantitative skills will also be considered. Experience working in pediatric cancer is an advantage but not necessary.

Xiaotu Ma, PhD **Molecular mechanisms of cancer initiation and clonal evolution**

The Ma Lab is seeking outstanding candidates for a postdoctoral research associate focused on developing novel computational approaches to understand the molecular mechanisms underlying cancer initiation and clonal evolution and to detect such events early, which is expected to significantly impact clinical management of childhood cancers. Dr. Xiaotu Ma has extensive experience in cancer genomics, intra-tumor heterogeneity and computational method development.

Requirements: Candidates must hold a doctoral degree (Ph.D., M.D. or equivalent). Applicants with a PhD in a quantitative field (computational biology, genetics/genomics, statistics, mathematics, computer science & related fields) are encouraged to apply. Strong candidates from a primarily wet-lab or clinical background who wish to develop sophisticated quantitative skills will also be considered. Experience working in sensitive detection of variants and error reduction in ultra-deep sequencing data, DNA and RNA sequence analysis, mathematical modeling, and algorithm development is preferred.

Developmental Neurobiology

Jay Bikoff, PhD **Functional Organization of Spinal Interneurons**

A position is available to study quantitative approaches to behavior, *in vivo* calcium imaging, and optogenetics/chemogenetics of neural circuitry in mice. The Bikoff lab aims to understand the functional organization of neural circuits that control movement, including how descending pathways from the brain interact with spinal circuits to implement motor output. The lab approaches this problem from multiple perspectives, using mouse genetics, single-cell transcriptomics, viral tracing and whole-brain imaging, and animal behavior to explore the role of molecularly discrete subsets of neurons in motor control.

Requirements: PhD in neuroscience or related discipline. Experience in quantitative behavioral analysis or in vivo calcium imaging is preferred as well as familiarity with Matlab or Python for data analysis.

Paul Northcott, PhD **Developmental and molecular basis of Medulloblastoma**

A wet-lab postdoctoral position is available immediately in the Northcott Lab to join a highly collaborative team studying the developmental and molecular basis of the childhood brain tumor medulloblastoma. The Northcott Lab has established an internationally renowned track record in pediatric neuro-oncology, substantiated by numerous impactful publications in *Nature*, *Cancer Cell*, *Lancet Oncology*, and *Journal of Clinical Oncology*. The successful applicant will be part of a multi-disciplinary team studying the biological and clinical utility of medulloblastoma liquid biopsies obtained from unprecedented clinical trial cohorts.

Requirements: Candidate must have a PhD, be highly motivated and capable of working independently, have an excellent publication record, work well in a team environment, and possess strong communication and interpersonal skills. Experience in cancer biology, molecular and cellular biology, genomics/epigenomics/transcriptomics, and clinical sample processing are highly desirable. Individuals possessing hands-on experience with sample processing for next-generation sequencing, single-cell genomics, and/or liquid biopsies will be deemed highly competitive. No bioinformatics experience is required for this position.

Hematology

John Crispino, PhD **Biology of normal and malignant hematopoiesis**

Dr. Crispino's laboratory studies the biology of normal and malignant hematopoiesis with an emphasis on the factors that drive progression of benign disorders to acute leukemia. A current major focus of the lab is to understand the increased risk of leukemia in children with Down syndrome and the role of GATA1 mutations and DYRK1A in oncogenesis. Another area of intense study is defining the mechanisms by which myeloproliferative disorders and myelodysplastic syndrome progress to acute myeloid leukemia. Finally, there is a major effort to understand the role of GATA1 in erythropoiesis. Crispino lab seeks an ambitious, motivated, and friendly postdoctoral scientist who has the desire to help advance our understand of blood disorders and improve the lives of patients.

Requirements: Candidates should have recently earned/expect to earn a Ph.D. and have published at least one first author primary research paper in a high impact peer reviewed journal. They should have experience in tissue culture and molecular biology. Experience with flow cytometry and animal models is a plus.

Marta Derecka, PhD **Hematopoiesis & the bone marrow microenvironment**

An open position is available in the Derecka Lab to study transcriptional regulation of the bone marrow cycle. The postdoctoral fellow will have the opportunity to develop new exciting projects involving changes of bone marrow microenvironment and its impact on aging blood system; transcriptional dysregulation of bone marrow niche in hematological disorders and bone marrow niche-induced changes of chromatin landscape in hematopoietic progenitors. The fellow will gain an experience in genome wide technology, CRISPR-Cas editing, mouse models and stem cell biology.

Requirements: PhD and/or MD, publication record, experience with molecular, biochemical and cell biology techniques. Expertise in mouse models and working with HSCs is a strong plus.

Mitchell Weiss, MD, PhD **Blood Development and Associated Diseases**

The joint lab of Mitchell Weiss and Yong Cheng is looking for a postdoc candidate interested in therapeutic genome editing using next generation genome editors such as Base Editor or Prime editors. The candidate will study the interplay between genome editors and different types of blood cells (such HSCs, other progenitors, and erythroid cells) and develop and optimize novel treatments for genetic blood disorders. In this position, the candidate will gain extensive experience and training in genomics, stem cell biology, and pre-clinical study.

Requirements: PhD and experience with molecular biology techniques (DNA, RNA, protein), cell culture, genome editing (base editing, Cas9, ZFN, TALEN, etc). Preferred skills include high throughput sequencing, stem cell experience, and knowledge of hematopoiesis.

Wilson K. Clements, PhD **Adult Hematopoietic System in Vertebrates**

A fully funded postdoctoral position is available in the Clements group in the Department of Hematology at St. Jude Children's Research Hospital to study how the adult hematopoietic system is established during vertebrate embryonic development. We are interested in understanding how early precursors of the sympathetic nervous system and vascular smooth muscle precursors interact with developing endothelial cells to establish the earliest hematopoietic stem cells. The Clements lab is a friendly group with a keen interest in understanding blood ontogeny and its relationship to malignancy. We support work/life balance and believe that individual happiness is fundamental to scientific discovery and professional fulfillment.

Requirements: We are particularly seeking an individual with experience in developmental hematopoiesis. In addition to a Ph.D., applicants should have a record of publication, and experience with molecular, biochemical, and cell biological techniques.

Shengdar Tsai, PhD **Genome editing technologies for therapeutic treatment of genetic disorders**

The Tsai Laboratory is seeking dynamic and creative candidates for a fully supported postdoctoral fellowship on genome editing technologies for therapeutic treatment of genetic disorders. The candidate will have the opportunity to lead new projects in this exciting space such as: (1) Developing and advancing genomic methods to define and measure gene editing "off-target" effects of precise base and prime editors for use in clinical applications, (2) High-throughput protein engineering of precise CRISPR base and prime editors towards correction of patient-specific mutations, (3) Developing novel strategies for editing of hematopoietic stem cells of genetic mutations that cause sickle cell disease and other hematological disorders. In this position, you will gain extensive experience and training in gene editing, protein engineering, and high-throughput genome biology.

Requirements: We especially encourage candidates with long-term goals of becoming independent academic investigators to apply.

Host-Microbe Interactions

Jason Rosch, PhD **Host-pathogen interactions and antibiotic resistance**

The Rosch lab is looking for a postdoctoral scientist with an interest in host-pathogen interactions and/or antibiotic resistance. Research will focus on understanding the genetic basis of antibiotic resistance in Streptococcus pneumoniae as well as mechanistic studies of virulence.

Requirements: PhD in Microbiology, Molecular Biology, or related field. Ideal candidates will have proven expertise in bacterial genetics, molecular techniques, and/or pathogenesis studies Research will focus on understanding the genetic basis of antibiotic resistance in Streptococcus pneumoniae as well as mechanistic studies of virulence.

Victor J. Torres, PhD **Complex interactions between pathogenic bacteria and mammalian host**

Several postdoctoral positions are available in the laboratory of Dr. Victor J. Torres. Currently, the lab is focusing on antibiotic resistant (AMR) bacteria, which have been recognized by the World Health Organization as a serious threat to human health. The lab takes advantage of multidisciplinary approaches and combine techniques from bacteriology, genetics, molecular biology, biochemistry, structural biology, cellular biology, and immunology with primary tissue culture models and a variety of murine models of infection, to address our favorite questions. The ultimate goal is to understand the basic principles of bacterial pathogenesis as well as to develop a platform for the discovery of targets that could be exploited for the generation of much- needed therapies.

Requirements: PhDs with strong background in microbial genetics, molecular biology, microbial pathogenesis, or immunology. Expertise in genomics, host-pathogen interaction, and/or host response to infection is highly desirable.

Immunology

Hongbo Chi, PhD — **Cellular Signaling in Innate and Adaptive Immunity**

Postdoc positions are available to study cell metabolism of the immune system and its implications in cancer and other diseases. Dr. Chi's lab is interested in understanding the metabolic programs, signaling pathways, and systems-level regulatory networks in basic T cell and dendritic cell biology, tumor immunity and therapy, and autoimmune disorders. They integrate immunological and genetic approaches with cutting-edge systems immunology tools, including single-cell transcriptomics, proteomics, metabolomics, network reconstruction, and CRISPR.

Requirements: Candidates with a PhD in immunology or cell biology and a strong publication record are encouraged to apply.

Yong Feng, PhD — **Mechanisms of T-cell tolerance in autoimmunity and anti-tumor immune response**

A postdoctoral position is available to explore novel factors and mechanisms controlling T-cell tolerance of self, tumor, and commensal microbiota. Research in Dr. Feng's laboratory utilizes innovative approaches and cutting-edge technologies to decipher the mechanisms governing T-cell tolerance involved in autoimmunity and anti-tumor immune response. Candidates will be supported by an NIH grant to explore an emerging area in T-cell biology.

Requirements: Highly self-motivated candidates with recently granted Ph.D. or equivalent in immunology, genetics, molecular biology, cell or developmental biology are invited to apply.

Thirumala-Devi Kanneganti, PhD — **Mechanisms of Host Defense and Inflammation**

The lab of Dr. Kanneganti has a position available offering a remarkable training environment for postdoctoral fellows focused on the innate immune system, including an opportunity to collaborate with researchers in the departments of Immunology, Infectious Diseases, and cancer biology. Successful candidates will be investigating cellular signaling in the immune system. The lab is interested in signaling pathways in innate immunity and cell death (NLRs, inflammasomes).

Requirements: PhD, DVM, MD/PhD in biomedical sciences with practical experience in immunology.

Oncology

Anand Patel, MD, PhD — **Treatment persistence and metastasis in rhabdomyosarcoma**

Dr. Patel's laboratory investigates the dynamics of intratumoral heterogeneity to understand the mechanisms driving rare cells to clinical behavior in childhood cancers, and the tumor microenvironment to understand the difference in tumor responses to chemotherapy and immunotherapy compared to others. His multidisciplinary team uses a combination of single-cell sequencing, patient-derived models of cancer, and computational biology to model tumor biology. A successful applicant will be part of a team studying the molecular mechanisms of treatment persistence and metastasis in rhabdomyosarcoma. Dr. Patel's lab has multiple projects on pediatric rhabdomyosarcoma, including efforts to map the molecular drivers of self-renewal in persistent progenitor cells, the role of lineage plasticity in fusion-positive rhabdomyosarcoma, the testing of targeted combination therapy to prevent rhabdomyosarcoma recurrence, and the generation of cell state specific biomarkers for real-time tracking of intratumoral heterogeneity.

Requirements: Experience in cell culture, epigenomics/transcriptomics, Western blotting, flow cytometry, and/or cell culture will desirable. Candidates with additional expertise in 3D cell culture, xenografting, and/or single-cell sequencing would be highly competitive. No bioinformatic expertise is required for this position.

Charles Roberts, MD, PhD — **SWI/SNF (BAF) Chromatin Remodeling/Tumor Suppressor**

A position is available to study the pathogenesis of myeloid malignancies. Major interests are determining how acquired mutations in hematopoietic stem cells lead to the development of clonal hematopoiesis and leukemia and identifying novel treatments that selectively target malignant clones. The postdoc will develop projects using several model systems including (1) Isogenic immortalized cell lines generated using CRISPR-Cas gene editing, (2) Novel xenograft and transgenic in vivo systems, and (3) Primary patient samples.

Requirements: PhD in molecular biology, cell biology, genetics, or a related field. To succeed in this position, applicants must have a strong cell and molecular biology background and an interest in working within vivo model systems. Applicants with expertise in genome editing, computational biology, and working with hematopoietic stem cells are encouraged to apply.

Esther Obeng, MD, PhD — **Myeloid malignancies and bone marrow failure syndromes**

The Obeng Laboratory is seeking creative and highly motivated candidates for a fully supported postdoctoral fellowship studying the pathogenesis of myeloid malignancies. The major interests of the lab are determining how acquired mutations in hematopoietic stem cells lead to the development of clonal hematopoiesis, myelodysplastic syndrome, and leukemia, in addition to identifying and studying novel treatments that selectively target malignant clones. The candidate will have the opportunity to develop and lead projects using several cutting-edge model systems including Isogenic immortalized cell lines generated using CRISPR-Cas gene editing, Novel xenograft and transgenic in vivo systems, Induced pluripotent stem cells, Primary patient samples.

Requirements: Successful applicants will have a Ph.D. in molecular biology, cell biology, genetics or a related field. To succeed in this position, applicants must have a strong cell and molecular biology background and an interest in working with in vivo model systems. Applicants with expertise in genome editing, RNA biology, computational biology, and working with hematopoietic stem cells are encouraged to apply.

Pharmaceutical Sciences

Samuel Brady, PhD — **Therapeutic vulnerabilities and resistance mechanisms from genomic alterations**

The Brady Laboratory focuses on identifying therapeutic vulnerabilities and resistance mechanisms resulting from genomic alterations in pediatric cancer, including osteosarcoma, neuroblastoma, and rhabdomyosarcoma. They seek an accomplished, self-motivated, meticulously organized bench researcher with a strong background in molecular biology and mammalian cell culture techniques. While this position focuses on experimental techniques, candidates will have the opportunity to learn aspects of genomics and computational biology if interested.
Requirements: Experience working with basic molecular biology techniques, and protein analysis including Western blotting, mammalian cell culture, and mouse models. Candidates with research experience in cancer or other human diseases are encouraged to apply.

Structural Biology

Chia-Hsueh Lee, PhD — **Structure and molecular mechanisms of membrane proteins**

Dr. Chia-Hsueh Lee's lab is seeking a highly motivated postdoctoral researcher who will lead exciting research initiatives, using a multidisciplinary approach that includes cryo-EM, biochemical, biophysical, and cell biological methods, to study the structures and molecular mechanisms of membrane proteins. Dr. Lee's lab has full access to the state-of-the-art cryo-EM facility at St. Jude, which houses a 300kV Titan Krios, a 200kV Arctica, and a 120kV Talos L120C microscope.

Requirements: An individual who has a passion for learning and navigating new research fields and is comfortable pursuing highly impactful scientific advances. Candidates with experience in protein biochemistry, structural biology or other related fields are encouraged to apply.

Madan Babu, PhD — **Data-driven exploration of sequence-function and structure-function relationships**

M. Madan Babu's Group is seeking a Postdoctoral Research Associate to develop new interdisciplinary research projects in the group. The Babu Group uses data-driven approaches to understand sequence-function relationships in intrinsically disordered proteins and structure-function relationships in medicinally important structured protein families such as GPCRs and Kinases, respectively. They are looking for a candidate to fill any of a number of roles in the group. Responsibilities include leading a project that utilizes data science and/or experimental approaches to reveal principles of biology and employing appropriate computational analysis pipelines and assays to answer specific biological question.

Requirements: Applicants with a PhD, particularly those with backgrounds in quantitative fields, computational expertise, or wet-lab/clinical backgrounds seeking to develop data science and quantitative skills, are encouraged to apply.

Scott Blanchard, PhD — **Mechanics of Biological Systems**

A position is available to drive interdisciplinary research initiatives in the laboratory of Dr. Scott Blanchard. The laboratory utilizes a range of quantitative biophysical and photophysical methods, as well as structural techniques, to explore clinically important biological systems, such as ribosome-catalyzed protein synthesis, membrane protein transport/signaling, and host-virus interactions, at the single-molecule scale.

Requirements: PhD in structural biology or related field with significant computational skills for custom data analysis and automation.

Tanja Mittag, PhD — **Tumor Suppressor Structures with cryo-EM**

The Mittag laboratory invites applications for a Postdoctoral Research Fellow to work on structures of the tumor suppressor and ubiquitin ligase component SPOP. They have recently solved the first cryo-EM structures of full-length SPOP, which has revealed interfaces that had not recently been observed in structures of smaller constructs. The project provides opportunities for characterizing structures of SPOP complexes with additional ligase subunits and of disease mutants with altered structures. The successful candidate will use cryo-EM and in vitro biophysical and biochemical studies to characterize SPOP structure and function.

Requirements: The successful candidate should have a Ph.D. in *in vitro* structural biology, protein biochemistry or biophysics. The candidate should demonstrate an academic record of excellence, and a strong interest in the growing field of biomolecular condensates. Experience with cryo-EM would be highly valuable to capitalize on the opportunities in this project.

Ji Sun, PhD — **Study of Disease-Causing Protein Complexes**

Dr. Sun is seeking a highly motivated Postdoc Research Associate to join their lab. Successful candidates will lead research projects focusing on disease-causing protein complexes, using an integrative approach combining structural, biochemical, and cell biology methods (Myasnikov A et al., *Cell* 2021; Zhu H et al., *Biorxiv* 2022, Jiang M et al., *Cell Research*, 2023). The lab has full access to the state-of-the-art cryo-EM facility in St. Jude, which houses a 300kV Titan Krios and a 200 kV Talos Arctica electron microscope equipped with K3 detectors.

Requirements: The ideal candidate should have: (1) a Ph.D. degree in biochemistry, structural biology, biophysics or related fields. (2) project management and scientific writing experience. (3) excellent communication skills and a collaborative attitude. Additional expertise in cell or structural biology (single particle cryo-EM) would be a plus but not required.

Surgery

Andrew Davidoff, PhD — **Novel Gene Therapy and Small Molecule Techniques in Solid Tumor Treatment**

An exciting career opportunity is available for a postdoctoral researcher in the laboratory of Dr. Andrew Davidoff to explore novel gene therapy and small molecule techniques in the treatment of solid tumors. The Davidoff lab seeks an inventive researcher to develop novel gene therapy vectors and test them in our translational models of neuroblastoma and liver cancers. The ideal candidate will have experience with models of solid tumors and/or AAV-based gene therapy vectors, to seek innovative cures for rare pediatric cancers.

Requirements: Highly qualified, self-motivated candidates who have or expect to complete a PhD degree should apply. A track record for scholarly accomplishments is required. The candidate will be expected to develop, execute, and lead a cutting-edge project. In addition, s/he will be expected to work well within a team environment.

Jun Yang, PhD — **Biological Function of Enzymes in High-Risk Solid Tumors**

A postdoctoral position is immediately available in the laboratory of Dr. Jun Yang. The Yang lab investigates epigenetics, splicing, drug development, and novel therapies. He is focusing on the biological functions of histone lysine demethylases (KDMs) in high-risk solid tumors. The project aims to understand how KDMs coopts oncogenic transcription factors to drive tumorigenesis and metastasis, and use novel KDM inhibitors to target metastasis and disease relapse. To this end, interdisciplinary strategies are applied by integrating genetic approaches (transgenic mouse models and conditional knockout) with cutting-edge systems (Cut&Tag, HiChIP, ATAC-seq, scRNA-seq, spatial transcriptomics), and functional genomics tools (Genome-wide and focused CRISPR libraries, CRISPR knocking, CRIPSRi and CRISPRa) as well as proteomics and metabolomics.

Requirements: The successful candidate will have these attributes: (1) PhD in the field of molecular biology, cell biology, biochemistry, or cancer biology. (2) Highly self-motivated, committed, and creative. (3) work effectively both independently and as a member of a team. (4) Excellent written and verbal communication skills.

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To apply, email your CV to postdoc@stjude.org

September 2023. EOE/Minorities/Females/LGBTQ/Vet/Disability