Meet the Inaugural class of Damon Runyon–St. Jude Pediatric Cancer Research Fellows

These five pediatric cancer research fellows will receive funding for four years for their innovative project.

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The Damon Runyon Cancer Research Foundation and St. Jude Children's Research Hospital today announce the inaugural class of pediatric cancer research fellows. Each of the five fellows will receive funding for four years ($300,000 total) to support an innovative project in basic or translational research with the potential to significantly impact the diagnosis or treatment of one or more pediatric cancers.

The initiative aims to provide support for early-career scientists to study pediatric cancer, addressing a funding gap that drives top talent to seek more prevalent opportunities in adult cancer research or the pharmaceutical sector. The Damon Runyon–St. Jude Pediatric Cancer Research Fellowship will fund up to 25 fellowships over eight years, a $9 million investment.

"We are excited to see what these gifted researchers bring to the table when it comes to accelerating progress to develop cures for children around the globe," said James R. Downing, MD, St. Jude president and CEO. "We are proud to partner with Damon Runyon on this incredible program, and we look forward to the work these bright minds will accomplish."

In addition to the benefits associated with a fellowship from Damon Runyon, including the retirement of up to $100,000 of medical school debt, the Pediatric Fellows will be invited to attend an annual meeting with their colleagues for valuable scientific exchange and potential collaboration with St. Jude faculty and trainees.

"The inaugural class of Damon Runyon–St. Jude Pediatric Cancer Research Fellows will focus on some of the most difficult-to-treat cancers affecting pediatric patients, which was exactly our goal in establishing this award," said Yung S. Lie, PhD, President and CEO of Damon Runyon. "We are incredibly grateful to St. Jude for their partnership and anticipate that these scientists will achieve important research advances."

The first class of Damon Runyon–St. Jude Pediatric Cancer Research Fellows was selected by a distinguished committee of leaders in the field. You can learn more about the fellowship here.

2024 Damon Runyon–St. Jude Pediatric Cancer Research Fellows

April A. Apfelbaum, PhD, with her sponsors Pratiti Bandopadhayay, MBBS, PhD, and Keith L. Ligon, MD, PhD, at Dana-Farber Cancer Institute.

Brain cancers are the leading cause of cancer-related deaths in children. A significant percentage of these tumors are classified as gliomas — diseases for which new therapies are desperately needed. A protein called tyrosine kinase FGFR1 is altered in 10% of pediatric gliomas. Apfelbaum aims to investigate critical genes in FGFR1-altered pediatric gliomas to understand the biological mechanisms driving these cancers. Her research hopes to uncover new therapeutic targets and mechanisms of FGFR1-mediated oncogenesis in pediatric gliomas, but since FGFR1 is commonly altered in many tumors, her findings may reveal a common oncogenic mechanism. Apfelbaum received her PhD from the University of Michigan, Ann Arbor, Michigan, and her BS from Beloit College, Beloit, Wisconsin.

Mohammad Balood, PhD, with his sponsor Tanja A. Gruber, MD, PhD, at Stanford University.

One of the persistent challenges in treating high-risk pediatric leukemia, particularly in cases of acute megakaryoblastic leukemia (AMKL), is the high incidence of relapse due to resistance to standard treatments such as chemotherapy and bone marrow transplantation. T-cell therapy has shown potential in treating various types of leukemia, offering the prospect of overcoming mechanisms that tumor cells employ to evade traditional therapies. However, a significant challenge in T-cell therapy for AMKL lies in identifying T cells that can recognize and target leukemia cells specifically. Balood’s research is dedicated to advancing T-cell therapy for AMKL. He plans to test and identify T-cell clones that specifically recognize and eliminate leukemia cells with the goal of translating these findings into an effective T-cell therapy with minimal toxicity in leukemia patients. Balood received his PhD from the University of Montreal School of Medicine, Montreal, his MS from Tarbiat Modares University School of Medicine, Tehran, Iran, and his BS from Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Costanza Lo Cascio, PhD, with her sponsor Mariella G. Filbin, MD, PhD, at Dana-Farber Cancer Institute.

Pediatric diffuse midline gliomas (DMG) are incurable brain cancers with no long-term survivors. To date, radiation therapy remains the standard of care but improves survival by only a few months. Despite intense research efforts over the past four decades, a lack of mechanistic understanding of the biology underlying DMG radioresistance still exists. Lo Cascio is studying how DMG tumors exploit interactions with surrounding normal neurons to survive radiation-induced cell death. While there is ample evidence that communication between neurons and DMG cells is critical to fuel tumor growth, whether this neuron-glioma crosstalk contributes to treatment failure is unknown. Lo Cascio hopes that, by pushing the boundaries of our knowledge of the neuron-glioma intercellular dialogue, she can identify resistance mechanisms that can be targeted to sensitize these lethal tumors to radiation therapy. Lo Cascio received her PhD from Arizona State University,

Tempe, Arizona, and her BS from the University of Bath, Bath, United Kingdom.

James J. Morrow, MD, PhD, with his sponsor Bradley E. Bernstein, MD, PhD, at Dana-Farber Cancer Institute.

Osteosarcoma is the most common bone tumor and primarily affects children and adolescents. Unfortunately, treatment approaches and outcomes for osteosarcoma patients have not significantly improved in 40 years. Morrow's work focuses on understanding normal bone development and how this development goes awry, giving rise to osteosarcoma. He hopes this improved understanding will lead to new treatment approaches for pediatric osteosarcoma patients. Morrow received his MD and PhD from Case Western Reserve University School of Medicine, Cleveland, Ohio, and his BS from The Pennsylvania State University, State College, Pennsylvania.

Philip T. Pauerstein, MD, PhD, with his sponsor Wendell A. Lim, PhD, at University of California, San Francisco.

Leukemia is a cancer of the immune system and is a major cause of death from cancer in children and young adults. Chimeric antigen receptor (CAR) T–cell therapy, which involves genetic engineering of a cancer patient's own immune system cells to fight cancer, has demonstrated curative potential. Despite excellent initial responses to treatment, however, leukemia recurs in up to half of pediatric leukemia patients after CAR T treatment. A major cause of treatment failure is that CAR T cells do not attach to cancer cells as strongly as natural T cells do to their targets, limiting their ability to find and kill cancer cells. Pauerstein's research is attempting to improve CAR T–cell sensitivity to cancer cells using synthetic cell adhesion molecules, a type of molecular glue between two cells. Engineering adhesion into CAR T cells should build a synthetic immune synapse that can help improve cell-based treatments for leukemia and, eventually, other cancers. Pauerstein received his MD-PhD from Stanford University, Stanford, California, and his BA from Rice University, Houston, Texas.

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