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# Hope Funds for Cancer Research

Press Release

## Hope Funds for Cancer Research Announces 2011 Postdoctoral Fellows

**NEWPORT, RI -- May 13, 2011** -- Hope Funds for Cancer Research, an organization dedicated to advancing research for the most difficult-to-treat cancers, announced today it has selected this year's recipients for its Hope Funds Postdoctoral Fellowships. The Hope Funds Fellowships reflect the organization's strong commitment to promoting scientific innovation. "We appreciate that the deep-seated foundation and future path to finding a cure for these difficult cancers is to attract and engage outstanding, creative, and energetic young minds into this field. We are privileged to have the opportunity to fund these extraordinary young investigators," states Jonathan Lewis, M,D,, Ph,D,, Chairman of the Hope Funds Scientific Advisory Council.

Applications for the fellowships came from the country's most prestigious research institutions and were reviewed by a global scientific study session comprised of key-opinion-leader scientists working in oncology. From more than seventy applications, the Hope Funds selected its three 2011 grantees: Elsa Beyer, Ph.D., at Harvard Medical School, who is studying cancer metabolism; Jurre Kamphorst, Ph.D., at Princeton University, who is investigating new therapeutic targets for pancreatic cancer; and Joo-Hyeon Lee, Ph.D., at Children's Hospital Boston, who is working to better understand the micro environment as it relates to lung cancer. Each Fellow will receive \$93,000 over two years to fund his or her research, with the possibility for a third year of additional funding.

#### About the Fellows

Elsa Beyer, Ph.D., Harvard Medical School, in the laboratory of Kevin Struhl, Ph.D. In their lab, the well-established type II diabetes drug, metformin was found to target cancer stem cells, a sub-population of tumor cells that are resistant to standard treatments and are thought to be responsible for patient relapse. Dr. Beyer is investigating the molecular mechanisms by which metformin exerts its anti-cancer effects. As metformin is used to treat metabolic disease, it may function in cancer by disrupting cellular metabolism. Preliminary evidence also suggests that it disrupts inflammatory signals. These studies will be relevant for difficult-to-treat cancers of tissues that are susceptible to chronic inflammation, such as the lungs, esophagus, liver, and gastrointestinal tract, as well as tissues that function in metabolism, including the liver and pancreas. Additionally, most human tumors are thought to contain cancer stem cells, so these studies may be relevant for all types of cancer.

Jurre Kamphorst, Ph.D., Princeton University, in the laboratory of Joshua Rabinowitz, Ph.D. Tumor cells make specific metabolic adaptations to supply the energy and building blocks for their rapid growth. Research in recent years established that one function of oncogenes is to induce these metabolic adaptations. Interfering with cancer cell metabolism is one of the oldest pharmacological approaches to cancer therapy, but is currently limited to the areas of folate and nucleic acid metabolism (e.g., methotrexate and 5-fluorouracil). Recently, Drs. Jurre Kamphorst and Joshua Rabinowitz found, using state-of-the-art mass spectrometry, that the Ras oncogene reprograms fatty acid metabolism. They will now have the opportunity to further investigate the nature and ramifications of this reprogramming, aiming towards finding novel therapeutic

approaches that selectively inhibit Ras-driven tumor growth. A particular focus will be on the devastating Ras-driven disease, pancreatic cancer.

Joo-Hyeon Lee, Ph.D., Children's Hospital Boston, in the laboratory of Carla Kim, Ph.D. Lung cancer is estimated to cause 160,000 deaths in the United States each year, a number that has remained unchanged after decades of cancer research. As a disease, cancer involves not only the tumor cells themselves, but also their surroundings, referred to as microenvironments. While this concept is accepted, many cancer researchers do not consider the tumor microenvironment idea in their experimental approaches. Dr. Lee is working to bring new technological approaches to lung cancer research by working to understand the role of the microenvironment and the molecules that regulate lung tumor growth. Using new techniques she previously developed, her work will help to determine which of the many mutations identified in human cancers are truly important therapeutic targets. This work will accelerate the discovery of novel therapeutic strategies for lung cancer patients.

#### About the Hope Funds Fellowships

The Hope Funds for Cancer Research supports research for highly innovative projects that challenge the traditional paradigms associated with understanding the causes, mechanisms, progression, disease markers, or risk factors of the most difficult-to-treat cancers. The Hope Funds believes it is important to emphasize creative approaches to research and award grants to young scientists based on the following criteria: project innovation and originality; the significance and direct relevance of the research proposal; the project's approach and conceptual framework; the researcher's qualifications and those of his or her mentors; and the quality of the researcher's overall working environment. To learn about all Hope Funds Fellows visit: 2011 Fellows, 2010 Fellows, 2009 Fellows, 2008 Fellows

### About the Hope Funds for Cancer Research

The Hope Funds for Cancer Research was formed in 2006 by individuals with experience in science, medicine, intellectual property law, investment banking, philanthropy, sociology and the arts, who wanted to establish a funding vehicle that would take a rational scientific, medical and investment approach to awarding research grants. A strong emphasis is placed on identifying innovative and promising research efforts to address the most difficult-to-treat cancers, including pancreatic, lung, liver, sarcomas, esophageal, brain, gastric, ovary cancers, rare leukemias and lymphomas, and MDS. The Trustees of the Hope Funds for Cancer Research believe that funding innovative research that can lead to medical breakthroughs and increased life expectancy is at the core of its mission. The Hope Funds for Cancer Research is a 509(a)(1) charity under 501(c)(3) of the Internal Revenue Service's code. For additional information about the organization, please visit <a href="https://www.hope-funds.org">www.hope-funds.org</a>

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