



Hope Funds for Cancer Research

**Press Release
For Immediate Release**

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Hope Funds Fellow Juan Manuel Schartzman Discusses His Research and Work In Cancer Metabolism in New Video

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NEWPORT, RI -- December 31, 2019 -- Dr. Juan Manuel Schartzman, a research scientist at Memorial Sloan-Kettering Cancer Center, discusses his work in cancer metabolism in a new video released by the Hope Funds for Cancer Research.

Dr. Schvartman is a postdoctoral fellow in Craig Thompson's laboratory; a lab focused on how mutations in an enzyme intricately involved in cellular metabolism affects the ability of these cells to specialize.

The full five-minute video, produced by television journalist Gary Jobson, a Hope Funds Life Trustee, may be viewed by clicking [here](#).

"We are excited to share this conversation with Juan Manuel Schvartzman, who is doing such important work," said Leah Rush Cann, Chairman of the Executive Committee, Hope Funds Board of Trustees. "Dr. Schvartzman is among those Hope Funds fellows who are helping make the seminal discoveries that will change the course of these deadliest of cancers."

Juan Manuel Schvartzman, Ph.D.

Juan Manuel Schvartzman, M.B./BChir, Ph.D. is a postdoctoral fellow at Memorial Sloan Kettering Cancer Center, in the laboratory of Craig B. Thompson, M.D. His work in the Thompson lab focuses on how mutations in an enzyme intricately involved in cellular metabolism affect the ability of these cells to specialize. Tumor cells rewire their metabolic pathways to ensure that they have adequate energy and nutrients to divide. However, tumor cells must also avoid the signals that push them to become more specialized, or differentiated, as differentiation is intricately associated with an inability to continue dividing. Interestingly, a subgroup of diverse tumors including leukemias, glioblastomas, cholangiocarcinomas and chondrosarcomas harbor mutations in enzymes that until now have been associated with how cells utilize nutrients for energy and building block production. He has seen that cells with mutations in one of these metabolic enzymes, isocitrate dehydrogenase, are unable to differentiate. This is due to the fact that during differentiation, regions of the genome containing genes required for differentiation must be opened or made accessible. This process requires the function of enzymes that use metabolites to carry out this opening by removing certain marks (in this case histone H3K9 methylation) from chromatin, the complex structure formed by DNA and the proteins that surround it. In cells with IDH mutations, these enzymes are inhibited and hence cannot open chromatin in the regions required to differentiate. Hence, IDH mutations lead to a block to

differentiate, a known step in the process of becoming a tumor. Dr. Schwartzman has seen that by inhibiting the deposition of the mark that cannot be removed in IDH tumors (H3K9-methylation), the block to differentiate is fully rescued. This points to a potential therapeutic target of tumors whose driving force is the inability to differentiate. Dr. Schwartzman received his B.A. and M.B./BChir from the University of Cambridge and his Ph.D. from Cornell University.

Hope Funds for Cancer Research

Hope Funds for Cancer Research was formed in 2006 to establish a funding vehicle that would take a rational scientific, medical, and investment approach to making grants for the most innovative and promising research efforts to address the most difficult-to-treat cancers, including pancreatic, lung, liver, sarcomas, esophageal, brain, gastric, renal and ovarian cancers, as well as rare leukemias, lymphomas and MDS. These cancers are insidiously aggressive illnesses that kill most of their victims within months, even with aggressive chemotherapy. The Trustees of the Hope Funds for Cancer Research believe that funding young, innovative researchers will lead to breakthroughs in these areas and increase life expectancy for those with these types of cancers. 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 www.hope-funds.org or call 401-847-3286.

Hope Funds for Cancer Research: Advancing innovative research in understudied cancers



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