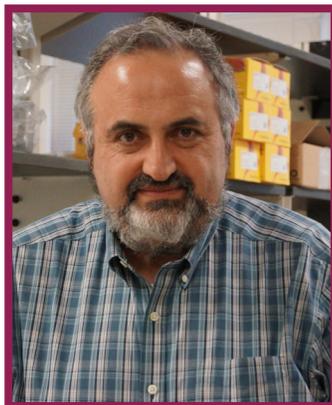


# Distinguished Seminars in Engineered Health

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## Myeloid Derived Suppressor Cells in Cancer Immune modulation

Myeloid immune cells have dynamic adaptation with tumor environment, and thus may play key roles in tumor surveillance and progression. Dr. Gabrilovich initially discovered that dendritic cells (DCs) in tumor-bearing mice (and later in cancer patients) were functionally impaired. They have described the first tumor-derived factor directly implicated in DC defects in cancer: vascular endothelial growth factor (VEGF) and suggested that myeloid progenitor cells were the main targets for this negative effect. His group was the first to implicate lipid accumulation as one of the mechanisms negatively regulating function of DCs in cancer. Dr. Gabrilovich was one of the discoverers of cells now called myeloid-derived suppressor cells (MDSC). His group characterized a number of molecular mechanisms regulating the expansion and function of these cells. Dr. Gabrilovich established the role of antigen-specific mechanisms of regulation of T-cell tolerance mediated by MDSC and described the critical contribution of peroxynitrite to this effect. His group provided first evidence that MDSC can be therapeutically targeted in patients. This talk will focus on these key discoveries and their implications in cancer immune modulation.



### ABOUT THE SPEAKER

Dmitry Gabrilovich, MD, Ph.D.  
Professor, Pathology and Laboratory Medicine  
University of Pennsylvania

Dmitry Gabrilovich, M.D., Ph.D., is the Christopher M. Davis Professor in Cancer Research and program leader of translational tumor immunology at the Wistar Institute in Philadelphia; he is also the Wistar Professor of Pathology and Laboratory Medicine at the University of Pennsylvania's Perelman School of Medicine. Dr. Gabrilovich earned his medical degree from Kabardino-Balkarian State University, USSR, and received his doctorate from the Central Institute of Epidemiology, Moscow, USSR. He was head of the the cell immunology group

at the HIV reference center in Moscow, where his group demonstrated neutrophil activation in HIV-infected individuals. Based on this work, he won the Wellcome Trust Fellowship in 1992 to study dendritic cell biology in experimental retroviral infection under Dr. Stella C. Knight at the Imperial College of London. Following training in cancer research at U.T. Southwestern Medical School and the Carbone lab at Vanderbilt University, he joined the faculty of Loyola University in Chicago in 1999. In 2000, he moved to the H. Lee Moffitt Cancer Center in Tampa where he held the Robert Rothman Endowed Chair in Cancer Research and served as head of the section of dendritic cell biology.

Thursday, March 16, 2017  
3:00 pm, 310 Kelly Hall

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