Brief Biographical Summary

DR. DIMITRI F. KUSNEZOV

Chief Scientist
National Nuclear Security Administration
U.S. Department of Energy

B.A. Physics, University of California at Berkeley
B.A. Pure Mathematics, University of California at Berkeley
M.S. Physics, Princeton University
Ph.D. Theoretical Nuclear Physics, Princeton University

Dr. Kusnezov currently serves as Chief Scientist at the National Nuclear Security Administration (NNSA) in the U.S. Department of Energy, a position he has held since 2010. He has served in multiple positions within the NNSA including concurrent appointments. This includes the (acting) Chief Information Officer in 2013 and the Director of the Office of Science and Policy from 2010 to 2015. Prior to that, he was the Director of the Office of Research and Development for National Security Science and Technology from 2008 to 2010, (acting) Director of the Office of Defense Science from 2005 to 2006, Director of the Office of Advanced Simulation and Computing from 2003 to 2008, and Program Manager for Physics & Materials Models, ASCI Program from 2001 to 2003. He has also served DOE Secretaries.

Dr. Kusnezov received A.B. degrees in Physics and in Pure Mathematics with highest honors from UC Berkeley in 1982. Following that he spent a year working in a research group at the Institut fur Kernphysik, KFA-Julich, in Julich, Germany. In the fall of 1983 he began his graduate studies at Princeton University, earning his MS in Physics and Ph.D. in Theoretical Nuclear Physics. In 1988 he went on the do post-doctoral research at the Michigan State University National Superconducting Cyclotron Laboratory, later becoming an Instructor in the Physics Department in 1990. In 1991, he joined the faculty of Yale University as an assistant professor in the Physics Department, and then became an associate professor in 1996. He has served as a visiting professor at numerous universities around the world. Dr. Kusnezov has published over 100 articles and edited two books. In late 2001 he left academia to pursue federal service at the National Nuclear Security Administration.

At DOE, he has been responsible for delivering the world's fastest supercomputers including delivering on the DOE 10-year grand challenge for a 100 Teraflop supercomputer in 2005, the novel Blue Gene supercomputer architecture family, and the first petaflop supercomputer, among others. He architected, led and brought to fruition in 2010 the first multiagency governance of the nation's national security S&T base, instituting the Mission Executive Council and a Governance Charter signed at the Cabinet level by DoD, DOE, DHS and ODNI. He developed a Minority Serving Institutions program focusing on STEM based consortia of Historically Black Colleges and Universities with Department of Energy laboratories, with an initial focus on cybersecurity. He created the 'Predictive Capability Framework' in 2006, the integrating approach to the science basis for the US nuclear weapons enterprise and the life-extension programs, underpinned by verification, classes or small and large scale experiments, and uncertainty quantification. It remains a guiding framework for program planning. He architected and launched a strategic partnership on foreign nuclear weapons assessment in 2009 between US Intelligence agencies and the Department of Energy that continues to bring scientific rigor into intelligence fields. He created and launched the Tri-Lab Capacity Computing initiative in 2006, still in place as a transformative measure representing a cost savings to NNSA of 50% in the total cost of ownership of computers and requiring standardization of tools and methods across the NNSA labs – something again not done prior. During 2016, he served as co-lead of the Vice President's Cancer Moonshot effort for Data and Technology, reporting up to the Vice President and the Secretary, delivering on new opportunities that became personally championed by the Vice President. In 2016 he reached out to partner with the Department of Veterans Affairs, creating jointly the MVP-CHAMPION program in mid-2016, and evolving to the Big Data Science Initiative in 2017 with a focus on the intersection of next-generation supercomputing architectures (artificial intelligence, bid data, high performance computing), US innovation and veterans' health.