

Short curriculum vitae
Ronald Veraar
Senior Scientist / Senior Systems Engineer
TNO Defence, Safety & Security



Ronald Veraar received his Bachelor of Science degree in 1987 at the School of Aeronautical Engineering in Haarlem, The Netherlands. He started his career at TNO in 1988 as a Research Assistant in the Research Group Rocket Technology, mainly working in the field of performance prediction of (solid fuel) ramjet propulsion systems. Over the years his field of attention extended to include design, development and testing (on-ground) of rocket and ramjet propulsion systems. From 1995 to 2000 he acted as the Technical Lead in the cooperation with the Swedish Defence Research Agency FOI to design, develop and flight test a generic gun-launched fin-stabilised Solid Fuel Ramjet (SFRJ) propelled projectile. From 2000 to 2005 he acted as Project Lead in the cooperation with Rheinmetall Switzerland to design, develop and flight test a medium calibre spin-stabilised air defence projectile. This work resulted in the world's first demonstration of sustained Mach 4+ flight of a SFRJ projectile fired from a standard gun. From 2005 to 2008 he became a Senior Research Scientist in the TNO department System Performance and Survivability, where he continued to work on high speed airbreathing propulsion systems. He also started a PhD study on the experimental scaling of aerodynamic heating on which subject he wrote several publications. Since 2009 he is working as a Senior Scientist in the TNO Weapon Systems department where he further extended his field of work to include and apply Systems Engineering in a wide variety of projects covering not only kinetic weapon systems but also systems ranging from High Energy Lasers to a large Thermal Vacuum Chamber for calibration of earth observation systems. From 2016 on, and driven by the introduction of Precision Guided Munitions, the SFRJ technology regained strong interest to extend the range of large calibre guided artillery ammunition beyond 100 km. Since 2020 he is Technical Lead of the TNO team that joined forces with Raytheon Missiles and Defense in the US Army XM1155 program to develop a TRL6 fully integrated demonstrator of a large calibre GPS independent guided artillery round with SFRJ propulsion.

Over the years, he has been an active member of numerous NATO AVT working groups on high speed airbreathing propulsion. In 2019 he was lecturer of the NATO AVT Technical Course on the Unified Tactical Missile Kinetic Performance Model. He also lectured at the Von Karman Institute on high speed airbreathing propulsion systems and on scaling of aerodynamic heating. On the latter two subjects he published over 25 papers throughout his career. In 2018 he received the AIAA High Speed Airbreathing Propulsion Best Paper Award for a paper on the flameholding limits of a central dump SFRJ combustor at high altitude operating conditions representative for large calibre artillery ammunition.