Gennady Shvets is an Associate Professor of Physics at The University of Texas at Austin. He received his PhD in Physics from MIT in 1995. He has been on the Physics faculty at the University of Texas at Austin since 2004. Previously he has held research positions at the Princeton Plasma Physics Laboratory and the Fermi National Accelerator Laboratory, and was on the faculty of the Illinois Institute of Technology. His research interests include nano-photonics, meta-materials with exotic optical properties (especially negative index), near field optics, laser processing of materials on a nanoscale, and advanced particle accelerators. He is the author or coauthor of more than 90 papers in the refereed journals, including Science, Nature Physics, Nature Materials, Physical Review Letters, and Applied Physics Letters. Dr. Shvets was a Department of Energy Postdoctoral Fellow in 1995-96. He was a recipient of the Presidential Early Career Award for Scientists and Engineers in 2000. His research is supported by DOE, NSF, DARPA, AFOSR, and ARO.

Professor Shvets is one of the pioneers in the emerging field of Negative Index Metamaterials (NIM). He is part of the DARPA-funded team lead by the Boeing Phantom Works Corporation investigating NIMs-based ultra-compact antennas and near-field imaging devices. He has also contributed to developing and experimentally implementing the concept of the Perfect Lens based on polaritonic materials. Perfect Lens enables imaging of sub-wavelength objects in the in infrared part of the spectrum, including objects buried under the surface. This work was published in the journal Science in 2006. Professor Shvets also pioneered the concept of Sub-wavelength Plasmonic Crystals and developed their applications to sub-wavelength Negative Index Materials in the optical part of the spectrum. With his collaborators, he developed novel techniques for analyzing optical properties of plasmonic nanostructures, including band-structure calculations of periodic nanostructures and quasi-static calculations of plasmonic resonances.