Massimo Inguscio

Massimo Inguscio is President of the National Research Council of Italy (CNR), of which he had previously directed the Department of Physical Sciences; he is member of the National Academy of Lincei and has been president of the Institute of Metrological Research National (INRIM). He was awarded the Légion d'Honneur by the French Government and received the prize Enrico Fermi of Italian Physical Society, the Herbert Walther Award of the Optical Society of America and the German Physical Society. Prof. Inguscio has been included in the Thomson-Reuters list of "most influential scientific minds" for his activities in atomic physics research close to absolute zero at LENS-European Laboratory for Non-linear Spectroscopy, University of Florence, of which he was director.

Short summary of scientific activity

M. I. has a long-standing experience of experimental research in: atomic, molecular and optical physics; quantum optics; light-matter interaction; spectroscopy and metrology; laser cooling; quantum simulation with ultracold quantum gases; development of spectroscopic and metrological instrumentation for physics and chemistry.

His most important achievements include: experimental tests of Quantum Electro-dynamics theory of the helium fine structure (for the high-precision determination of the fine structure constant) and of symmetry properties of molecules; first Italian Bose-Einstein condensation (BEC) with Rubidium atoms; invention of the sympathetic cooling technique with different atomic species; first Bose-Einstein condensation of Potassium atoms (⁴¹K and ³⁹K); pioneering studies of bosonic and fermionic gases in optical lattices and demonstration of their application as accurate force sensors with high spatial resolution; first investigation of disorder physics with ultracold gases and demonstration of Anderson localization of matter waves; pioneering experimental demonstrations of quantum simulation and, more in general, of the new revolution of atom-based quantum technologies; development of instrumentation for spectroscopy, metrology and cross-fertilization of frontier and interdisciplinary fields in science.