

Keynote Speech III

Digital Watermarking



Dr. Martin F.H. Schuurmans

Dr. Martin Schuurmans is the Executive Vice President and CEO of the Centre for Industrial Technology of Philips (CFT). Martin Schuurmans (Venlo, The Netherlands, 1946) completed his Ph.D. on nonlinear wave equations in 1971 at the University of Eindhoven. He then joined the Philips Research Laboratories in Eindhoven as a theoretical physicist. His scientific work entailed quantum optics, semiconductor physics, superconductivity, and computational physics. In 1977, together with Polder and Vreken, he found the long sought for explanation for super-fluorescence, the giant and super-fast emission that starts under certain circumstances from spontaneous emission of a number of atoms. In 1979 he became department head of the group "Theoretical Physics" in the Philips Research Laboratories. From 1985 to 1991, he was part-time professor of Theoretical Solid State Physics at the University of Delft. 1988-1991 he was head of the department "Advanced Theoretical and Experimental Physics". His group was involved in the predictive calculation of properties of magnetic- and semiconductor multi layers, quantum and ballistic transport in semiconductors, scanning tunneling microscopy and the growth and study of extremely thin ferroelectric- and magnetic layers.

Martin Schuurmans joined Philips Laboratories, Briarcliff Manor, New York, USA, October 1 1991, as director of the Physics & Materials Research Sector. The sector was active in blue lasers, enabling technology for high voltage devices, power electronics, and electrodes for lamps. A successful research program for lighting electronics was established. April 1, 1994 he became Director and head of the IC Design Sector of the Philips Research Laboratory in Eindhoven. This sector provides the Philips product divisions with design methods, test methods, and tools for cost-effective implementations of complex high performance analog, digital and mixed analog/digital systems on silicon IC's. As of February 1, 1996 he was the Managing Director and Chairman of the Management of the Philips Research Laboratory in Eindhoven. This laboratory, also called the "Philips Natuurkundig Laboratorium" with a current staff of about 1600, is active in basically all Research activities relevant to Philips. As of August 1, 2000 he is CEO of CFT. This Philips Centre for Industrial Technology supports all Philips businesses worldwide, including their key suppliers and partners, with technological and industrial capabilities to improve their business efficiency and effectiveness, and to help realise new business opportunities. As of May 1, 2001 he is also part-time professor in "Innovation Management" at the Eindhoven University of Technology.

Martin Schuurmans is married to Victoire, and has two children, Frank and Margot. An active marathon runner himself for many years, he has been the chairman of the International Eindhoven City Marathon.

Abstract

The ability to represent audio and video digitally and its vast popularity poses enormous challenges in protection against unauthorized use, copy and distribution in open, highly uncontrolled Internet environment. Digital watermarking, a technology for insertion of imperceptible information into multimedia content offers a solution for authentication and suitable action thereof. This is a rapidly maturing technology. Initiatives within the Industry are ongoing for various forms of multimedia.

Technology alone is unlikely to address all the copy protection issues. Business models and legal support also play an important role in tackling them.

This speech addresses these aspects based on experience within Philips.