

P 1 Hauptvortrag (G. Kroesen)

Zeit: Freitag 10:15–11:00

Raum: HU 3038

Hauptvortrag

P 1.1 Fr 10:15 HU 3038

Perspectives of Industrial Plasma Applications — ●GERRIT KROESEN — Eindhoven University of Technology

Many branches of industry could not exist without plasma technology. One needs only to think of examples like electrostatic dust precipitators in electrical power plants, plasma-mediated abatement of hazardous gases and liquids, corona plasmas in copiers and laser printers, plasma etching machines in micro-electronics, plasma treatment of textiles and metals, plasma based lamps, E-UV radiation sources, excimer lasers used for cutting and machining, plasma spraying of high-value coatings, plasma welding, production of synthetic diamonds, plasma based extraction of iron from ore, generation of unprecedented nanostructured materials, innovative plasma-based medical treatments, plasma's integrated in MEM's, and plasma deposition of coatings for solar cells, architectural glass, mirrors, plastic electronics, CD's and DVD's, etc. In some of these areas the technology is mature, some are only emerging now. Usually, a maturity of the technology occurs at the same time as a maturity of the science of the related plasma regime. Especially in the last 10 years, in many areas of the field of plasma physics, science has been leading technology. These areas offer the most challenging perspectives for the future. The talk will give an overview of the broad area of plasma technology. Key developments and still missing science and technology will be identified.