

# The Online Encyclopedia and Dictionary

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## Ali Erdemir

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**Ali Erdemir**, born in Kadirli, [Adana](#), Turkey, is a [Turkish materials scientist](#) specializing in surface engineering and [tribology](#).

He graduated from the [Metallurgy](#) Department of the [Istanbul Technical University](#) in [1977](#). After working for two years at the Iskenderun Iron and Steel Company in Turkey as an engineer, he went to the USA for doctoral studies. Erdemir received a [master's degree](#) in [materials engineering](#) and a [doctorate](#) in materials science and engineering from the [Georgia Institute of Technology](#) in 1982 and 1986, respectively. After completing his military service in Turkey, Erdemir began in [1987](#) to work as an assistant metallurgist at the [Argonne National Laboratory](#) near [Chicago](#), which is operated by the [University of Chicago](#) for the [U.S. Department of Energy](#). Since [1990](#), he is conducting his research as a materials scientist.

Erdemir has broken one of the technological records of the century

by conducting [friction](#) tests on a new ultra-hard, low-friction coating. The material is many times slicker than [Teflon](#) and hard enough to show promise for use in automobile engine parts. It is reported that the invention of Erdemir, who has been on the covers of many scientific magazines published in the USA, has broken the [friction coefficient](#) record by 20-fold. He developed a [carbon](#) coating that showed the lowest coefficient of friction, less than 0.001, when tested in a dry [nitrogen atmosphere](#). This makes the carbon coating 40 times slicker than Teflon, which has a coefficient of about 0.04.

Erdemir made Argonne Laboratory the number one research center for tribology and has received many international prizes, including three R&D awards, considered the Oscar of technology, in [1991](#), [1998](#) and [2003](#) for a [boric acid lubricant](#) and a near frictionless carbon coating, respectively. He has [patent](#) rights for six of his inventions.

Erdemir is member of several professional societies and published more than 100 scientific papers in the fields of friction, wear, lubrication of materials and coatings. He was awarded an [honorary doctorate](#) degree from the University of Anatolia ,Eskişehir , Turkey in [1998](#).

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