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# Materials Chemistry

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## Nanomechanics with nanotubes and fullerene-like-WS<sub>2</sub> (MoS<sub>2</sub>)

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Some new aspects of nanomechanics and nanotribology with fullerene-like (IF) and nanotubes (INT) of WS<sub>2</sub> (MoS<sub>2</sub>) will be discussed. New experimental work on the mechanical behavior of individual nanoparticles will be presented and discussed. These experiments were established in order to address specific questions, like the mechanical strength of such nanoparticle under compression. In the next series of slides, the mechanical and tribological properties of nanocomposites based on such nanoparticles will be shown and discussed. Finally, the wetting of individual WS<sub>2</sub> nanotubes by liquids will be discussed.

### Biography

Reshef Tenne earned his Ph.D. in 1976 in the Hebrew University. He joined the Weizmann Institute in 1979, where he was promoted to a professor in 1995. He headed the Department of Materials and Interfaces and was the director of the G. Schmidt Minerva Center for Supramolecular Chemistry (2000-2007) and the Helen and Martin Kimmel Center for Nanoscale Science (2003-2014). He held the Drake Family Chair in Nanotechnology (2003-2014) until his retirement. Among his recognitions were the Materials Research Society Medal (2005); The Kolthoff Prize in Chemistry of the Technion, Israel (2005); The Israel Vacuum Society Excellence in Science Prize (2006); The Landau Prize of the Israeli Lottery in Nanotechnology (2005); was nominated MRS Fellow in 2008; received the Israel Chemical Society Prize (2008) and the European Research Society (ERC) Advanced Research Grant (2008). He became Fellow of the Royal Society of Chemistry, elected to the Israel Academy of Sciences and Academia Europaea in 2011 and was chosen to deliver the CNR Rao Award Lecture (Indian Chemical Res. Soc.) in 2012. He received the Gold Medal of the Israel Chemical Society (2015) and the Rothschild Prize for Physical and Chemical Sciences (2016).

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