

PRC Espionage 2021

Case Summaries Nanotechnologies

Meyya Meyyappan, PhD

Naturalized US citizen

Research Violation – Lying to NASA (his employer) about multiyear participation in China’s Thousand Talents Program

Dates of Offense: 2016 - 2020

Verdict: Guilty

Employment: NASA Ames Research Center in Moffett Field, CA., Chief Scientist for Exploration Technology at the Center for Nanotechnology. Leads a team of 60 scientists.

Significance:

Dr. Meyyappan has been a pioneer in the field of nanotechnologies for applications in electronics. There are many additional applications: “sensors, super-strong lightweight material and a variety of other fields” Meyyappan said. “The larger benefits will be in health, medicine, transportation, computers - almost every sector of daily life.” “For example, it could be used for a more effective drug delivery or early warning diagnostics. It could also be a cheaper source of energy”. NASA is developing nanotechnology for its future needs in electronics, computing, sensors, and advanced miniaturization of all systems.

Meyyappan was most recently been working on “using the fourth class of materials, organic molecules, as a conducting channel to make electronic devices. We synthesize these organic molecules and we try to make a logic chip or a memory chip.”

Development of advanced logic and memory chips are a priority (if not the top priority) of the PRC. The CCP has invested \$1.4 trillion in this research since the US restricted access to its chips. Micro chip development is at the forefront of the PRC’s efforts at self-reliance.

Gang Chen, PhD

Naturalized US citizen

Alleged Research Violation – (January 2021) Allegedly lied to USG about multiyear participation in China’s Thousand Talents Program. Allegedly did not disclose trips and work for universities in China, Korea, and Japan. Allegedly submitted false statements on Dept. of Energy grant application. Wire Fraud. IRS violations - failure to disclose Chinese bank account.

Dept of Justice states that Chen provided “advice and expertise – sometimes directly to PRC government officials as an “overseas expert” for the PRC government at the request of the PRC Consulate Office in New York and serving as a member of at least two PRC Talent Programs. Since 2013, Chen allegedly received approximately \$29 million of foreign funding, including \$19 million from the PRC’s Southern University of Science and Technology”. (* Note – MIT has an open research partnership with SUSTech. This university has been implicated in other cases).

Dates of Offense: 2012 – 2020 in Thousand Talents Program, 2009 – 2020 working for other overseas universities.

Verdict: Charged (alleged)

Employment: Director of the MIT Pappalardo Micro/Nano Engineering Laboratory and Director of the Solid-State Solar Thermal Energy Conversion Center funded by US Dept of Energy.

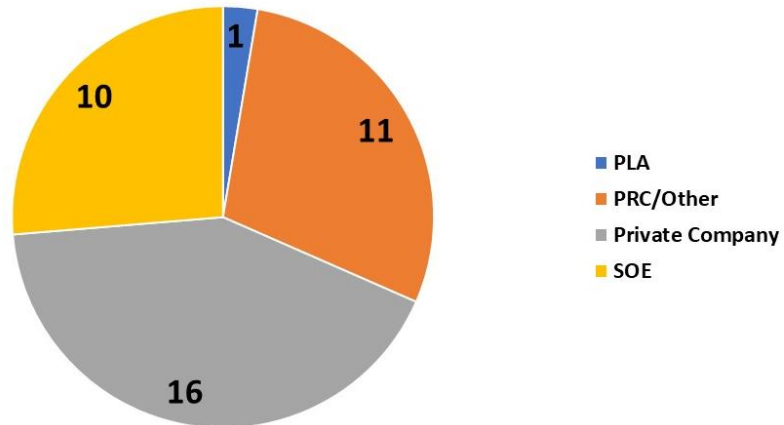
Significance:

Developing research innovation in the PRC and transfer of research on nanotechnologies in multiple applications to include applications in energy storage and conversion, thermal management, and water treatment and desalination. Chen’s research is on the understanding of heat transfer in nanostructures to develop energy conversion, storage, and water technologies.

Dept of Justice release of Chen’s email indicates motivation was Chinese nationalism.

Additional review of nanotechnology cases identifies 38 cases where PRC illegally acquired nanotechnology. PRC customers include the PLA (People’s Liberation Army), PRC/Other (Universities, research institutes), SOE (State Owned Enterprises), and private companies:

PRC Espionage on Nanotechnology



Cases of PRC theft of nanotechnology research by US state. * Note – blank indicates non US case.

