

## Scientific Collaboration of Turkey with the EU Member States:

### The Case of Nanotechnology<sup>1</sup>

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#### Abstract

As an emerging technology field, nanotechnology introduces new dimensions to science and technology. Thus, nanotechnology is widely seen as having huge potential to bring benefits to many areas of research and application. In this framework it is vital to analyse the development and current status of nanotechnology research at the country level.

There is an on-going motivation for analysing the trend of research networks of nanotechnology. This paper attempts to present the evolution of Turkey in nanotechnology research by taking into account the academic publications to indicate the overall trend and the leading subject categories in the systems of nanotechnology innovation. The purpose of this paper is twofold: (i) to present the trend of nanotechnology research and (ii) to highlight Turkey's collaboration patterns in the relevant research sub-fields with the EU member states. In this framework, the study aims to show whether Turkey has the capability to collaborate with the advanced group of countries such as the EU in nanotechnology and to identify the sub-fields of common interests within the framework of Web of Science subject categories.

In this paper, the data is developed using the definition of nanotechnology proposed by the most recent bibliometric search strategy of Arora et al. (2013) which captures the latest developments and topics in nano-related research. Using this search approach, the relevant data is derived from Thomson Reuters WoS – SCI for the time period of 1990-2012. Vantage Point tech-mining software is used for data-cleaning, analysis and mapping. Statistics such as the trend in nano-related publications, leading institutions, leading countries and international collaborations in nanotechnology subject categories are obtained. The findings are expected to be particularly useful for developing the future areas of research in nanotechnology domain in collaboration with the EU.

**Keywords:** Nanotechnology, Turkey-EU scientific collaboration, Bibliometric analysis

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