

Editorial

New Era in Scientific Studies After Covid-19: Remote Research

March 2022

The COVID-19 pandemic affected every single aspect of our lives and we are just experiencing its short-term effects. The way of teaching and scientific events have been adapted to these new conditions. Even though it was technically possible before the COVID-19 era, online conferences, workshops, and lectures are now the daily routines of academia. Even though it lacks face-to-face communication, and sometimes the joy of traveling yet it offers tremendous advantages such as attending more than one global event in one day without transportation, a dress code, and even being healthy. As an irony, you can attend those events even if you are infected with COVID.

The other aspect of COVID-19 is its effect on the scientific study outputs. According to Web of Science metrics, the number of all kinds of scientific publications had an increasing trend during the 2010-2019 period with an average annual increase rate of 4% as illustrated in Fig. 1. The total increase during 9 years period was recorded as 32% (from 2.36 million to 3.49 million publications). With the COVID-19 emerging in early 2020, the increasing trend was reversed, and it even continued in 2021. This might be due to several reasons including delayed review processes, limited access or lockdown of campuses, problems in the laboratory material supply chain, and of course health issues of researchers. The decreasing trend was expected to continue in 2022 even though the restrictions have been removed either partially or totally in different parts of the world.

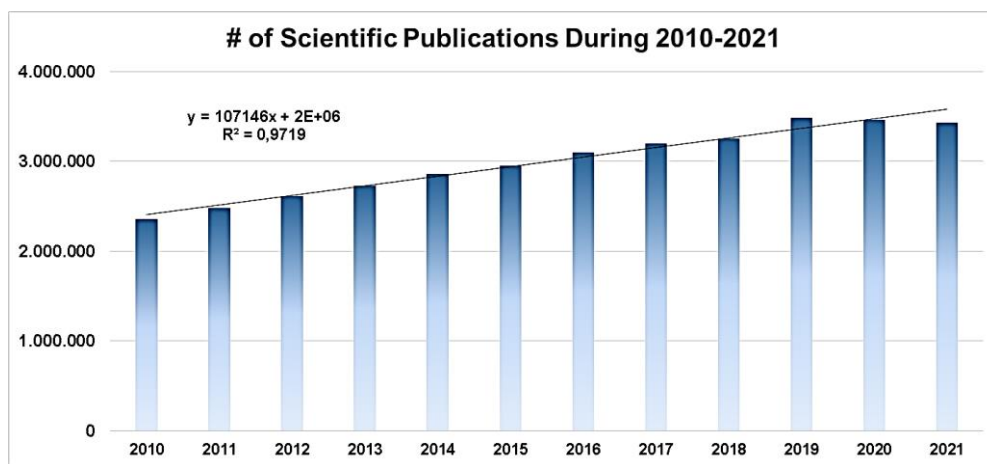


Figure 1. The number of all types of scientific publications from 2010 to 2021 is archived in the Web of Science.

During the same period, contrary to the trend in the number of all types of publications, there is an exponentially increasing trend for review-type publications as given in Fig. 2. The percentage of review papers among all types of publications was 3% in 2010 while it increased to 6% in 2021. Different from the trend reported in Figure 1, the number of review papers continuously increased. The increase rate of the review paper from 2019 to 2020 was recorded as 17% while this increased rate was noted as 13% for the 2020-2021 period.

Academia needs to prepare in advance and quickly adapt itself to such challenges. In this context, the “remote research” concept can be a solution with the help of developments in the area of the internet of things (IoT), artificial intelligence (AI), machine learning (ML), haptic, micro/nanotechnologies. Even though virtual/augmented reality tools are already being used in different branches of science and education, remote

production, and/or experimentation with robots, ML and AI-based analysis, and even self-reporting are not far from today. The remote research process can be controlled as in now, or autonomous without any human interference as illustrated in Fig. 3.

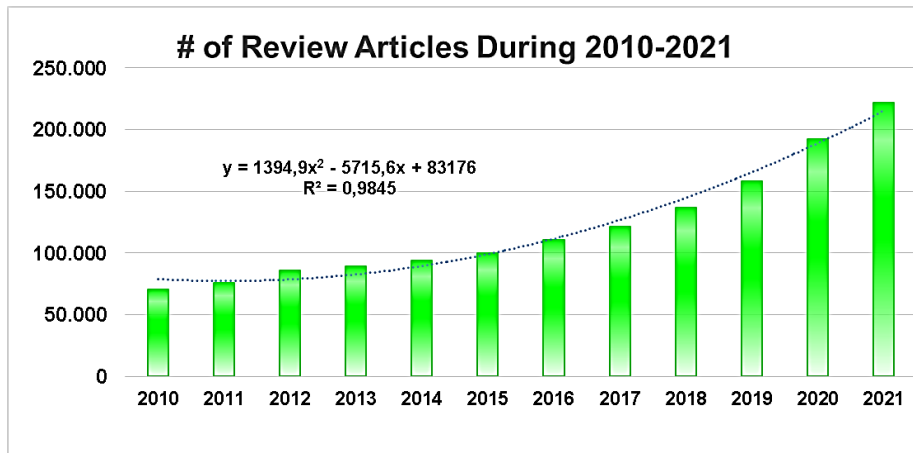


Figure 2. The number of review papers during the 2010-2021 period archived on the Web of Science.

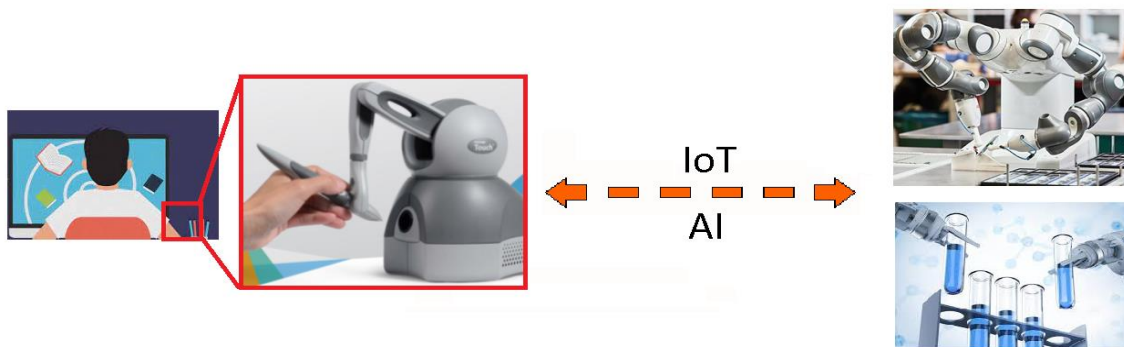


Figure 3. Remote research concept which can be realized and widespread in near future.

It's our pleasure to introduce the seventh volume of the Turkish Journal of Electromechanics & Energy (TJEE). This special issue is comprised of five articles four of which were selected from the International Conferences on Engineering and Natural Sciences (IOCENS'21) which was held online, and organized by Gümüşhane University, Turkey, during July 5-7, 2021. Publishing a special issue was a long and meticulous process. We convey our thanks to the organizing committee of the IOCENS'21 for accepting our invitation to publish a special issue in TJEE.

The first study in this issue prepared by **Iqteit et al.** investigated the future of the Hebron electrical grid with the growing demand for electric cars. In the second one, **Çakmak** investigated the impacts of Covid-19 and distance education on electricity consumption in the Gümüşhane University campus. The power quality analysis of different LED lamps was investigated by **Kürker**. The fourth paper of this issue, the speed control of the MT2240A DC motor with an observer-based linear quadratic regulator was studied by **Kasım**. The last study of the current issue deals with the solar photovoltaic/thermal system by **Rekioua et al.**

The last but not the least, the TJEE journal has been included in **Index Copernicus (IC) Journal Master List 2020** with 89.78 ICV, **Cite Factor Impact Factor 1.03** for 2020-21, and many more yet to come.

Looking forward to meeting you in the next issue.

Editors-in-Chief

Ömer Necati CORA, Ph.D & Mustafa Ergin ŞAHİN, Ph.D