Nuclear Magnetic Resonance (NMR) spectrometer was obtained to Faculty of Pharmacy, Mansoura University through the STDF capacity building project 21746

**Leveling up the quality of research standards using NMR spectrometer**

رفع كفاءة وجودة المستوى البحثي باستخدام جهاز الرنين النووى المغناطيسى

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The main objective of having Bruker 400 MHz Avance III Nuclear Magnetic Resonance (NMR) spectrometer was to improve the research quality and development capacity of Faculty of Pharmacy and hence University of Mansoura which is located in the heart of the Nile Delta of Egypt. This target was achieved through improving the research infrastructure by providing scientific research equipment. The services and benefits of NMR provided and radiated to the entire delta region and to all Egypt, and considered as a technology and innovation institutional asset. NMR provided a state-of-the-art research work to serve the community, and to address the national strategic priority themes, through the following:

* The availability of such instruments helped improving the scientists’ access to modern research equipment and tools.
* The production of top-level research work to serve the scientific research community, scientific and pharmaceutical industry.
* Improving the research quality to produce top quality research and to make the researchers at Faculty of Pharmacy, Mansoura University and whole Egypt more internationally competitive.
* Promoting the partnerships between academia, scientific private sector institutions, scientific and pharmaceutical industry to contribute to solve the country strategic priority themes and problems in the area of research and development efforts.
* Enabling collaborators from academia and industryto produce research outputs and services to solve actual problems through creating well equipped creditable research environments.

The operators managed to build up a reputation of quality exceeded the borders of Egypt. NMR unit analyzed more than 6000 samples in three years, serving all Faculties of science, pharmacy, agriculture, research centers in Egypt and Arab countries. The NMR Unit has received samples from Saudi Arabia, Nigeria, and Ukraine. The unit is recommended for its reliability even from Canada and USA. The instrument did serve Mansoura University and received samples from all corners of Egypt. The instrument management led by the PI is working hard to keep the apparatus in excellent condition regarding operation and maintenance.

* The use of such sophisticated instrument to teach graduate students had a reflection on the standards of their pharmaceutical research. Graduate student researchers from various scientific specialties benefited from this instrument The center will
* The existence of such instrument enhanced the MSc and PhD thesis quality and hence the quality of scientific publications.
* The instrument helped to enhance the Faculty’s curricula to better meet the need of modern research aspects.
* The instrument provided additional benefit through on-site workshops, training, and demonstrations in addition to remote operation and observation of the various experiments.
* The instrument became a regional resource with open access to investigators from multiple institutions in this province and in the neighboring ones of Delta region, and Egypt at large.
* The instrument helped to close the existing gap of lack of standard electronic mechanism for instrumental data distribution and processing at Faculty of Pharmacy, Mansoura University, Delta region and Egypt at large.
* Long term impact included cost savings. There were substantial time and cost savings for the staff and students. Data distributed electronically. It shortens the turnaround time and save money.