

FOR IMMEDIATE RELEASE

For information contact:

Lesley Kriewald

Texas A&M University at Qatar

Lesley.Kriewald@qatar.tamu.edu

+974.4423.0424

3 Dec. 2018

Texas A&M at Qatar hosts colloquium on light technologies that can promote the goal of a knowledge-based Qatari economy

Texas A&M University at Qatar hosted a colloquium, “Light: A New Nobel Prize for a Trillion-dollar Business,” at the HBKU Cinema to highlight the research work being done at Texas A&M at Qatar that is truly affecting Qatar’s future.

The colloquium was presented by physics professor Dr. Stylianos Tzortzakis to demonstrate the applications of lasers and photonics — the science of harnessing light. Initiated by the new Nobel prize in physics that was awarded “*for groundbreaking inventions in the field of laser physics*” Tzortzakis explained why this is important, how Texas A&M at Qatar is also pioneering research and how the State of Qatar can be a world leader in this field as it works toward a knowledge-based economy as laid out in Qatar National Vision 2030.

The event was attended by students and faculty, industry executives and government representatives.

Tzortzakis first explained that light can exert forces on objects, showing how laser beams can be used as “tweezers” to manipulate small particles. Optical tweezers have found groundbreaking applications in biology and medicine and the first half of this year’s Nobel prize in Physics recognizes this advance. The second half of the Nobel prize recognizes the achievement of extreme power laser sources that have led to numerous new scientific discoveries and applications, from tracking the motion of electrons in molecules in real time, to techniques to cure cancer without damaging healthy tissue.

The use of lasers is already everywhere in manufacturing, transportation, healthcare, telecommunications, biotechnology and security. Tzortzakis also pointed out the next frontiers for the application of light, including quantum computing, wireless communication via light and utilizing the terahertz spectrum for remote probing. The research being done at Texas A&M at Qatar is undertaking these frontiers at light speed. Tzortzakis' research group, for example, is solving data latency by connecting optical fiber directly onto silicon chips.

Qatar is already a major player in this field. The goal is to consolidate the fragmented work being done by the various research institutions and entities in order to make Qatar a leader in the world. Tzortzakis' presentation was a revelation for the necessity of this research and why in Qatar's interest, it really is a trillion-dollar business.

###

About Texas A&M University at Qatar

Since 2003, Texas A&M University has offered undergraduate degrees in chemical engineering, electrical engineering, mechanical engineering and petroleum engineering in Qatar Foundation's Education City, and graduate degrees in chemical engineering since fall 2011. Texas A&M at Qatar has awarded nearly 950 degrees. All four undergraduate engineering degree programs are accredited by the Engineering Accreditation Commission of ABET. Faculty from around the world are attracted to Texas A&M at Qatar to educate the next generation of engineering leaders in Qatar and to conduct research valued at more than \$248.2 million that address issues important to the State of Qatar. Visit www.qatar.tamu.edu.