

# Research

## HIGHLIGHTS



### AFOSR and the development of the LASER

**Dr. Charles Townes is widely regarded as the father of the laser. His invention of the maser in 1954\* provided the theoretical foundation for developing the laser.**

While those facts are generally known, what isn't as well known is that AFOSR helped fund the early works of Dr. Townes, including the development of the maser.

*\*He conceived the idea in 1951, the first one operated in 1954.*

Following World War II, there was increased emphasis on developing radar equipment that used increasingly shorter wavelengths. The Joint Services Electronic Program was established in 1946, with the Air Force joining the program in 1947, to support former wartime radar

laboratories, including those at MIT and Columbia. The challenge was to develop shorter wavelengths to enable better directivity for the aircraft and to use smaller antennae. Dr. Townes worked extensively in designing radar-bombing systems and has a number of patents in

related technology.

From this he turned his attention to applying the microwave technique of wartime radar research to spectroscopy which he foresaw as providing a powerful new tool for the study of the structure of atoms and molecules and as a potential new basis for controlling

*story continued on next page...*



Family, friends and colleagues celebrate with Nobel Prize winner Dr. Charles Townes. Joining the celebration is Dr. Howard Schlossberg (second from left), a long-time AFOSR program manager.