

in the news

bell labs innovations

Melvin Lax Receives Laser Physics Award

MURRAY HILL, N.J. (Jan. 21, 1999) - Physicist Melvin Lax has been awarded the Willis E. Lamb Medal for Laser Physics, in recognition of pioneering research he conducted at Bell Labs in the 1960s. Also receiving the award earlier this month, at the 29th Winter Colloquium on the Physics of Quantum Electronics in Snowbird, Utah, were Lorenzo Narducci and Herbert Walther.

Melvin Lax (This photograph is also available at [high-resolution](#))



A distinguished professor of physics at the City College of New York since 1971, Lax has been affiliated with Bell Labs for 44 years. He worked at Bell Labs from 1955 to 1972 and remains a consultant. Lorenzo Narducci is Davis Professor of Physics at Drexel University in Philadelphia; Herbert Walther is Director of the Max Planck Institute of Quantum Optics in Munich, Germany.

Less than five years after the invention of the laser, Lax began publishing a series of theoretical papers that proved fundamental to the scientific understanding of this new class of device. Narducci and Walther have applied Lax's theoretical work in recent years.

"Mel Lax is one of the fathers of quantum optics," said Dick Slusher, head of Optical Physics Research, the Bell Labs department with which Lax is currently associated. "When I was starting out in this field, his work was required reading, as part of a very small set of seminal papers describing how lasers worked."

Lax is the author of more than 200 publications, including several books and a paper that has achieved the status of a "citation classic." He holds two patents, one in laser design and one in the area of optical inversion. He was elected to the National Academy of Sciences in 1983. He is a fellow of the American Association for the Advancement of Science, a fellow of the American Physical Society, and a member of the Optical Society of America; he has served on numerous editorial and advisory boards. Lax has taught at Syracuse University, Princeton University, and Oxford University.

Lax's early work at the Massachusetts Institute of Technology, where he received his Ph.D., was in the fields of acoustics, nuclear physics, and meson physics. He continued this work at Syracuse University, where he also did seminal work on the multiple scattering of waves and moved on to semiconductor physics research. His next move was to Bell Labs.

"Mel Lax is one of the scientists who made Bell Labs theoretical solid-state physics the best in the world," according to Physical Sciences Research Vice President Bill Brinkman.

Lax's current research includes inverting optical scattering data from a turbid medium to detect impurities, such as tumors in the human breast.

For more on past and present laser R&D at Bell Labs, see the Web site celebrating the laser's 40th anniversary: www.bell-labs.com/laser.



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