

UW PROFESSOR WINS NOBEL PRIZE - 'ELATED' GERMAN-BORN PHYSICIST, 2 OTHERS ARE HONORED

Seattle Times, The (WA) (Published as THE SEATTLE TIMES) - October 12, 1989

- Author/Byline: JACK BROOM
- Edition: FINAL
- Section: NEWS
- Page: A1

A University of Washington professor said he was surprised and delighted by a 4 a.m. phone call from Sweden today informing him he is one of three recipients of the Nobel Prize for physics.

"I'm elated. I wish to dance," said Hans G. Dehmelt, 67, a UW faculty member since 1955.

Dehmelt and West German Wolfgang Paul were honored for their work on methods to isolate single atoms for close study.

Also honored was Norman F. Ramsey of Harvard University, whose work led to the development of the atomic clock used as the international time standard.

Ramsey will receive half the \$469,000 prize; Dehmelt and Paul will share the other half.

German-born Dehmelt said his interest in atomic particles goes back to the age of 10, when he was an amateur radio operator.

"One sets one's goals very early," he said. "When I was a graduate student, my teacher drew a dot on the blackboard and said, 'Here's an electron,' but nobody had ever isolated one."

Since then, Dehmelt's life's work has been attempts to isolate an individual atomic particle at rest "so you can study it to your heart's content."

One of the milestones along the way came in 1979, when he succeeded, with colleagues, in isolating a single barium atom. "We were able to see this atom as a little blue star when we lit it with a laser," he said.

Dehmelt said he had no idea he was being considered for the Nobel prize. "One doesn't know these things. It's a very secretive procedure."

The prize and the accompanying recognition should enable him to proceed with his research, Dehmelt said. Of the prize money, he said, "That cannot be completely sneezed at, either."

Dehmelt, who came to the United States for a position at Duke University in 1952, said he plans to marry "soon." He is engaged to Seattle physician Diana Dundore.

In announcing the physics winners, Ingvar Lindgren, chairman of the Nobel awarding committee, said: "All three of them have developed exact methods of measurement, which has made it possible to conduct experiments that might force us to reconsider some basic physical laws, especially regarding time and space."

Informed by The Associated Press that he had won the prize, Ramsey said, "Are you sure?" then said he was "delighted."

Ramsey developed a way to study the structure of atoms by exciting them to different energy levels using two oscillating electromagnetic fields.

That led to the development of the hydrogen maser, a laser-like device that excites hydrogen atoms and provided the most detailed determination of their internal structure.

Another application of the method was the cesium atomic clock, in which cesium atoms are excited to higher levels. Since 1967, the second has been defined as the time during which the cesium atom makes 9,192,631,770 oscillations.

Dehmelt and Paul were recognized specifically for the development of the ion-trap technique for separating ions - electrically charged atoms - according to their weight.

In 1973, Dehmelt used the technique to observe a single, isolated electron. Later, he was able to observe single ions in the trap.

Paul, working independently in his laboratory at the University of Washington, developed another kind of ion trap called the Penning trap,

the Swedish Academy said.

Material from Associated Press was included in this report

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- *Index terms: AWARDS, DECORATIONS AND HONORS; CONTESTS AND PRIZES; SEATTLE; NUCLEAR ENERGY; COLLEGES AND UNIVERSITIES*

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