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A Conversation with Donald Marquardt

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Abstract. Donald W. Marquardt was born in New York, New York on March 13, 1929. Marquardt received a Bachelors degree in physics and mathematics from Columbia University in 1950 and a Masters degree in mathematics and statistics from the University of Delaware in 1956. From 1953 to 1991 he was employed by the DuPont Company starting as a research engineer/mathematician and ultimately organizing and managing the corporate quality management and technology center. He is now President of Donald W. Marquardt and Associates. In 1986 he was President of the American Statistical Association (ASA). He has received various awards, including the Shewhart Medal from the American Society for Quality Control (ASQC) in 1986 and the Meritorious Service Award from the American National Standards Institute in 1992. Marquardt was elected a fellow of the ASA in 1975, a fellow of the American Association for the Advancement of Science in 1983, a fellow of the ASQC in 1986 and a member of the International Statistical Institute in 1989. Two of his publications have been named Citation Classics by the Institute for Scientific Information. As Chairman of the U.S. Technical Advisory Group to ISO/TC176, he is the Leader of the U.S. delegation to the international committee that prepares the ISO 9000 standards on quality management and quality assurance. Among several leadership roles in this international committee, he is convener of the Strategic Planning Advisory Group. He has held adjunct professorships at several universities and has been Associate Editor of three statistics research journals.

The following conversation took place at the August 1993 Gordon Research Conference on Statistics in Chemistry and Chemical Engineering, at New Hampton, New Hampshire.

THE THEORY OF KNOWLEDGE, STATISTICS AND COMPUTERS— A WINNING COMBINATION

Gerry Hahn: It is, indeed, a great pleasure to talk with you this afternoon and to have the opportunity to review your many accomplishments and activities. Perhaps a good starting point is to ask how you got interested in statistics in the first place.

Don Marquardt: My entry into the field of statistics was, as is so often the case, more or less accidental. When I was at Columbia University, I was focusing my undergraduate work on physics and mathematics, and took many courses in the physics department. The Second World War had just finished. On the faculty and in the group of graduate students in the physics department at Columbia there were several people who were either then or were later to become Nobel Laureates. I, of course, had a lot of laboratory work at the physics department and from that I got interested in statistics. In retrospect, I realize that I first learned the notion of one variable at a time experimentation there.

Hahn: Picked up some bad habits I surmise.

Marquardt: Yes, from today's perspective it seems like a bad habit, but it was state-of-the-art in the physical sciences at that time. For me the importance was that I suddenly realized that a deliberate strategy of experimentation is possible.

I looked around the university for a course in statistics. I did find one in the School of Business, and sat in on the first two lectures, but it was at such a cookbook level that I decided that I really didn't want to continue. Perhaps I didn't under-

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