

Dr. Seth Bonder

Air Force and Education

Seth Bonder spent five plus years as a pilot in the United States Air Force and, after that, earned a B.S. in Mechanical Engineering from the University of Maryland in 1960. He was the first Systems Fellow at Ohio State University where he was awarded his PhD in 1965.

University of Michigan

Planning to go into industry, he had turned down offers from several universities and interviewed with a number of business firms. Prior to traveling to Detroit to interview with Chrysler Corporation, however, a well-timed invite led him to join the faculty at University of Michigan instead. He served on the faculty at Michigan from 1965 until 1972.

Vector Research, Inc.

While at Michigan, Bonder founded Vector Research, Inc. (VRI), a firm that eventually grew to employ over 400 professionals in Ann Arbor, Texas, and Washington, DC. He left Michigan to head VRI full-time in 1972. He and his colleagues at VRI developed a variety of novel mathematical models to represent military operations and used them to inform decision-making about national security issues at the highest levels.

From 1995 through 2004, Bonder led VRI in a successful effort to use OR approaches to address the increasingly critical problems inherent in contemporary healthcare delivery systems and financial enterprises in the public and private sector.

In 2001 VRI was acquired by ERIM and the merged entity was renamed the Altarum Institute. While serving on Altarum's board of directors he founded The Bonder Group, and continued to lead and participate in studies

sponsored by the National Academies, to serve on a variety of academic and healthcare boards, and to provide consultant services to the Department of Defense.

I had ORSA, MORS, the Army Science Board, the National Academy of Engineering, Vector and the teaching part. They've all been pieces of an integrated career. I'm not sure how I did all of it, probably not well (Laughs). When I look back on my life and wonder if I've contributed something, I think: "Yes, I did."

-Dr. Seth Bonder, Military Operations Research Oral History Project

Service, Awards, & Recognition

- Elected to the National Academy of Engineering (NAE)
- Served as president of both the Operations Research Society of America (ORSA) and the Military Operations Research Society (MORS)
- Founding Fellow of INFORMS
- INFORMS President's Award
- INFORMS Kimball Award
- INFORMS Military Applications Society's Steinhardt Memorial Prize

Fellowships and Scholarships

Bonder generously endowed fellowships at the Ohio State University and the University of Michigan, and also established and funded two INFORMS scholarships to recognize and support Ph.D. students working on applied OR in military applications and in health services. Before his death he established The Seth Bonder Foundation which continues his legacy of supporting students and research.



Time at Michigan

In 1965 Seth Bonder was invited to give a seminar at the IOE Department. Bonder found his interactions with Professors Thrall, Galliher, Disney, and others so intellectually stimulating that he accepted IOE Chair Walt Hancock's offer of faculty position rather than moving into industry as he'd previously planned. He became an IOE faculty member in the summer of 1965.

Professor Bonder began teaching a new sophomore level math programming course (IOE 310) the inventory control course (IOE 441). In subsequent years Professor Bonder developed decision analysis courses 460 and 560.

In 1966 Professor Bonder founded the Defense Systems Laboratory (DSL) in the Department to continue his research in modeling the operations of large scale systems. The DSL received multi-million dollar funding from various defense agencies and research organizations. To assist with the research, the DSL employed a number of Department faculty and supported a large number of Ph.D. and masters level candidates. A number of the students developed their dissertations

and theses as part of their research guided by Professor Bonder in the DSL.

In 1967 Bonder developed and ran a UM continuing education course titled "Topics in Military Operations Research" for practicing analysts in industry and government. Approximately 100 students attended the course, which was offered for a number of years in the UM continuing education program.

After a couple of years on the faculty, and many lunches with Professors Disney and Wilson at the Brown Jug, Professor Bonder believed that the Operations Research graduate program in the IOE Department was not well-suited to prepare students for careers as practicing analysts. He felt the Department needed courses devoted to the modeling activity to provide a student with initial experiences in :

1. Identifying and converting a real world problem into an analytic one,
2. The process of making reasonable assumptions for developing and then building a process model that could be used to address the problem,
3. Assessing the feasibility of obtaining data for model use and validation; and
4. Using the model to address the real world problem.

In 1968, he developed and taught the IOE 580 course to provide students with these initial experiences. A course of this type was later taught by Professor Pollock in IOE and offered in a number of OR related departments in the U.S.

By 1969, in addition to spending 50 percent of his time directing the DSL, Professor Bonder was teaching 310, 460, 560, and 580; running the continuing education short course; guiding several graduate students; actively participating in professional activities; and consulting 4-6 days a month with industrial clients.

In the summer of 1969, Professor Bonder started Vector Research, Inc. (VRI), to conduct studies for the Department of Defense during the Vietnam War. Professor Bonder "moonlighted" with the company until 1972 at which time he left the University to work full time with it.