

**Evin Joyce Cramer
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Dr. Cramer is a Boeing Technical Fellow with 25 years of experience in applied optimization that includes guidance algorithm design, trajectory optimization, and multidisciplinary design optimization. She is the technical leader of the optimization program in Boeing's Applied Mathematics organization. Her team develops new optimization methods and tools specific to the complex problems facing Boeing. The work involves close collaboration with engineering experts in various disciplines and with academic researchers, as well as interaction with commercial software developers. She is currently active in multidisciplinary design optimization (MDO) and methods for exploring design space. She is co-developer of Boeing's Design Explorer, a software suite of methods and tools for examining design alternatives and optimizing designs when the analysis is performed with complex computer simulations. Design Explorer is widely used at Boeing and is licensed commercially. Among many other publications, she is co-author of a seminal paper that established a widely accepted taxonomy for MDO problem formulations. An area of current research and development is expanding methods for MDO to the more complex setting of systems of systems. Dr. Cramer is the chief designer of mathematical methods and software for the digital flight manual that is used for all new Boeing commercial transports. She developed new methods for route optimization with statistical winds. She has been one of the leaders of the Boeing research team to advance the state of the art in guidance algorithm technology for space and missile applications.

Education

BA Mathematics, University of Wisconsin, 1969
MAT Mathematics Education, Johns Hopkins University, 1970
PhD Mathematics, University of Texas at Arlington, 1977