

Optimization of Radiation Beam Cancer Therapy and Engineering the Service Sector



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Thursday, April 10, 2003

1130ME Conference Room starting at 3:30 p.m.

Abstract

The bulk of this seminar will present ongoing personal research in optimizing external beam radiation therapy for cancer. The complexities of devices used to deliver this therapy to thousands of patients each year have far outstripped the ability of human planners to optimize their use. Dr. Rardin and colleagues have developed mixed-integer programming algorithms for the treatment planning problem that show promise for real improvements and raise intriguing methodological challenge. This work is an example of the wide opportunities for persons trained in operations research and industrial engineering to contribute to improving the quality and productivity of service enterprises. The second part of the seminar will sketch some of these opportunities and the leadership NSF has been trying to provide in the area.

Biography

Ronald L. (Ron) Rardin is Program Director for Operations Research and Service Enterprise Engineering with the National Science Foundation, on rotator assignment from his permanent position as Professor of Industrial Engineering at Purdue University. He obtained his PhD from Georgia Tech, where he served on its faculty before joining Purdue in 1982. Professor Rardin's teaching and research interests center on optimization modeling and algorithms, particularly large-scale integer and combinatorial problems. He is co-author of numerous research papers in that field, as well as a graduate text Discrete Optimization, published in 1988, and a comprehensive undergraduate textbook Optimization in Operations Research. His many honors include three times winning Purdue University's Pritsker Award for outstanding undergraduate teaching in industrial engineering, serving as an Associate Editor for Management Science and the INFORMS Journal on Computing.

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For further information regarding this and other Center for Supply Chain Research seminars, contact

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