



# Numerical Methods in Biomedical Engineering

By Stanley Dunn Ph.D., Alkis Constantinides, Prabhas V. Moghe Ph.D.

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- Supported by Whitaker Foundation Teaching Materials Program; ABET-oriented pedagogical layout
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## **Editorial Review**

### **Review**

"...an excellent and well-rounded introduction to numerical analysis, which also provides a stimulating overview of the field of biomedical engineering."

- Biotechnology Focus, 2006

### **About the Author**

Dr. Dunn joined Rensselaer Polytechnic Institute in 2008 as Vice Provost and Dean of Graduate Education and full Professor in the School of Engineering. Dunn's experience includes developing university-wide initiatives in such areas as packaging engineering, water resource management, and homeland security. He also has extensive experience building academic programs, including overseeing the country's first engineering-based clinical training program in prosthetics and orthotics. Dunn has mentored 14 Ph.D. students, 23 M.S. students, and many undergraduate students. These students have come from biomedical engineering, electrical and computer engineering, computer science, mathematics, dentistry, as well as the M.D./Ph.D. program. The author of three books and 150 papers on different subjects including digital subtraction radiography, Dunn is a fellow of the American Institute of Medical and Biological Engineering. He is the founding editor-in-chief of the Journal of Applied Packaging Research, and has served as an editor and officer of several journals and professional organizations.

Alkis Constantinides is a Professor of Chemical and Biochemical Engineering, with nearly forty years of academic and industrial experience. He is the author of the textbook *Applied Numerical Methods with Personal Computers* and the co-author of the textbook *Numerical Methods for Chemical Engineers with MATLAB Applications*. Dr. Constantinides has served as Chairman of the Department, Director of the Graduate Program, Director of the Undergraduate Program, and Director of Alumni Relations. He is the recipient of the prestigious Warren I. Susman Award for Excellence in Teaching (1991), and the recipient of the 1998, 1999, 2003, and 2005 Best Teacher of the Year Awards chosen by the Graduating Senior Class of the Department of Chemical and Biochemical Engineering

Prabhas Moghe is Distinguished Professor of Biomedical Engineering at Rutgers University. In addition, he holds graduate faculty appointment in the Graduate Program in Cell and Developmental Biology at Rutgers/UMDNJ. He has served as Undergraduate Program Director in Biomedical Engineering and currently directs the NSF IGERT Program on Integratively Engineered Biointerfaces at Rutgers. A Fellow of the American Institute of Medical and Biological Engineering (AIMBE) and a recipient of the NSF CAREER Award and several teaching awards at Rutgers, Dr. Moghe has an active research program in the areas of cellular bioengineering; micro- and nano-systems bioengineering; and cell-interactive biomaterials.

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