

## EDITORIAL BOARD

**Editor-in-Chief**  
**Ralph C. Smith**

*North Carolina State University*

### Series Editors

**Athanasios C. Antoulas**  
*Rice University*

**Siva Banda**  
*Air Force Research Laboratory*

**Belinda A. Batten**  
*Oregon State University*

**John Betts**  
*The Boeing Company*

**Stephen L. Campbell**  
*North Carolina State University*

**Eugene M. Clifff**  
*Virginia Polytechnic Institute and State University*

**Michel C. Delfour**  
*University of Montreal*

**Max D. Gunzburger**  
*Florida State University*

**J. William Helton**  
*University of California, San Diego*

**Arthur J. Krener**  
*University of California, Davis*

**Kirsten Morris**  
*University of Waterloo*

**Richard Murray**  
*California Institute of Technology*

**Ekkehard Sachs**  
*Universität Trier and Virginia Polytechnic Institute*

## YOU ARE INVITED TO CONTRIBUTE

If you are interested in submitting a proposal or manuscript for publication in the series, contact:

Ralph C. Smith  
Department of Mathematics  
North Carolina State University  
Raleigh, NC 27695  
+1-919-515-7552  
fax: +1-919-515-1636  
[rsmith@eos.ncsu.edu](mailto:rsmith@eos.ncsu.edu)

or

Elizabeth Greenspan  
Acquisitions Editor  
SIAM  
3600 Market Street, 6th floor  
Philadelphia, PA 19104-2688  
+1-267-350-6375  
fax: +1-215-386-7999  
[greenspan@siam.org](mailto:greenspan@siam.org)

Submission procedures, details about SIAM's book publishing process, and other vital information are available from SIAM.

The Society for Industrial and Applied Mathematics publishes quality books with practical implementation at prices affordable to individuals.

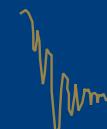
Complete information about SIAM and its book program can be found at [www.siam.org](http://www.siam.org).

**siam**

Society for Industrial and Applied Mathematics  
3600 Market Street, 6th floor  
Philadelphia, PA 19104-2688 USA  
+1-215-382-9800 • Fax: +1-215-386-7999  
[siam@siam.org](mailto:siam@siam.org) • [www.siam.org](http://www.siam.org)

**Ralph C. Smith**  
**Editor-in-Chief**  
**North Carolina State University**

# Advances in Design and Control Book Series



Advances in Design and Control

**siam**

Society for Industrial and Applied Mathematics

## VISION STATEMENT

To promote, through written publications and electronic media, works characterized by the highest scientific quality in a broad spectrum of topics encompassing the fields of design and control.

## SERIES FOCUS

The SIAM Series on Advances in Design and Control publishes books dealing with all areas of design and control and their applications. Topics of interest include shape optimization, multidisciplinary design, trajectory optimization, feedback, and optimal control. The series focuses on the mathematical and computational aspects of engineering design and control. The goal is to develop a series of technical books, textbooks, and research monographs that are usable in a wide variety of scientific and engineering disciplines.

Candidate textbooks, at the graduate or junior-senior undergraduate level, should have a well-defined target audience in computer science, engineering, mathematics, or a physical science. Similarly, research monographs should focus on emerging or rapidly developing research areas of interest to the broad design and control community.

## SIAM BOOK PROGRAM MISSION STATEMENT

- Actively seek to publish excellent works of interest to students, professional applied mathematicians, engineers, and scientists.
- Engage in continued assessment of the focus of the series and the potentially new and currently evolving needs of the constituencies served by the series.
- Solicit, through promotions at scientific meetings, ongoing advertising, and personal contact, authors who are experts in topics fitting the focus of the series and who can effectively communicate their expertise to the intended audience of the series. Research monographs must appeal to a broad market and all books must contribute to the financial success of the series.
- Editorially assist authors in developing effective modes of written, graphical, quantitative, and computational communication.
- Aggressively promote the series.
- Monitor production costs so that the series can be widely affordable.
- Ensure that all books are delivered and published in a timely manner.

## BENEFITS OF PUBLISHING IN THE SERIES

### Marketing

SIAM develops a specific marketing plan for each book and works closely with authors to market their books aggressively worldwide. About 40% of our book sales originate outside the United States. SIAM combines affordable prices with extensive efforts to reach foreign and local markets via direct mail; space ads; extensive Internet marketing, including SIAM's own website and relationships with online retailers such as Amazon.com and Barnes & Noble; and displays at exhibitions, workshops and conferences worldwide. SIAM also works closely with Cambridge University Press, our distribution partner for areas outside North America.

SIAM books are promoted to our more than 11,000 members our entire database of more than 100,000 mathematicians. In addition, we promote to members of many other technical and scientific societies and individuals interested in applied mathematics. SIAM has cooperative arrangements for marketing its publications to other societies and organizations around the world.

### Pricing

All books are priced to be affordable to individuals.

### Support of the Profession

Revenue from SIAM's book program is used to foster new programs and products for society members.

### Quality Control

Our full-time copyeditors are familiar with mathematical notation and proofread all manuscripts.

### Flexibility

Our staff works with authors and editors to accommodate special needs such as typesetting systems and special formatting.

### Personal Attention and Staff Experience

Our staff is well versed in  $\text{T}_\text{E}\text{X}$  and other systems and will work with authors to accommodate special needs and requests.

### Author Royalty

Author royalties are competitive with those offered by other publishers. In addition, authors receive complimentary copies of their book for personal and promotional use.

### Shelf Life

All books remain in print until replaced by an updated edition.

### Distribution

Books are shipped promptly, directly from the SIAM office. Buyers outside North America may also order through SIAM's distribution partner, Cambridge University Press.



## BOOKS PUBLISHED IN THE SERIES

**Extending  $H^\infty$  Control to Nonlinear Systems: Control of Nonlinear Systems to Achieve Performance Objectives**

William J. Helton and Matthew R. James

**Advances in Linear Matrix Inequality Methods in Control**

by Laurent El Ghaoui  
and Silviu-Iulian Niculescu

**Practical Methods for Optimal Control Using Nonlinear Programming**

John T. Betts

**Shapes and Geometries:**

**Analysis, Differential Calculus, and Optimization**

Michel Delfour and J. P. Zolesio

**Perspectives in Flow Control and Optimization**

Max D. Gunzburger

**Approximation of Large-Scale Dynamical Systems**

Athanasios C. Antoulas

**Introduction to Shape Optimization: Theory, Approximation, and Computation**

J. Haslinger and R. A. E. Mäkinen

**Nonlinear Output Regulation: Theory and Applications**

Jie Huang

**Applied Dynamic Programming for Optimization of Dynamical Systems**

Rush Robinett III, David G. Wilson, G. Richard Eisler, and John E. Hurtado

**Control Perspectives on Numerical Algorithms and Matrix Problems**

Amit Bhaya and Eugeniusz Kaszkurewicz

**Adaptive Control Tutorial**

Petros Ioannou and Baris Fidan

**Stability and Stabilization of Time-Delay Systems:**

**An Eigenvalue-Based Approach**

Wim Michiels and Silviu-Iulian Niculescu

**Applied Stochastic Processes and Control for Jump-Diffusions: Modeling, Analysis, and Computation**

Floyd B. Hanson

**Linear Feedback Control: Analysis and Design with MATLAB**

Dingyü Xue, YangQuan Chen, and Derek P. Atherton

To order, visit:

[www.siam.org/catalog](http://www.siam.org/catalog)

