George Stephanopoulos

Selected Publications

Books:

Intelligent Systems in Process Engineering: Paradigms for Product and Process Design, Volume 21 in the "*Advances in Chemical Engineering Series*", (with C. Han) Academic Press (1995).

Intelligent Systems in Process Engineering: Paradigms for Process Operations and Control, Volume 22 in the "*Advances in Chemical Engineering Series*", (with C. Han) Academic Press (1995).

Chemical Process Control: An Introduction to Theory and Practice, Prentice-Hall, 1984

Papers:

"Multiscale theory for linear dynamic processes: Part 2. Multi-scale Model-Predictive Control", G. Stephanopoulos, O.I. Karsligil, and M.S. Dyer. *Computers and Chemical Engineering,* **36,** p. 857-884, 2008.

"Multiscale theory for linear dynamic processes: Part 1. Foundations", G. Stephanopoulos, O.I. Karsligil, and M.S. Dyer. *Computers and Chemical Engineering,* **36,** p. 885-912, 2008.

"Nanoscale Process Systems Engineering: Toward Molecular Factories, Synthetic Cells, and Adaptive Devices", (with N. Stephanopoulos and E. Solis), *AIChE Journal,* **51**, p. 1858-1869, (2005)

"Topological coarse-graining of polymer chains using Wavelet-Accelerated Monte Carlo. I. Freely-jointed chains", (with A. E. Ismail and G. C. Rutledge), *J. Chem. Phys.*, **122**(23), 234901(web), (2005)

"Topological coarse-graining of polymer chains using Wavelet-Accelerated Monte Carlo. II. Self-avoiding chains*",* (with A. E. Ismail and G. C. Rutledge), *J. Chem. Phys.*, **122**(23), 234902(web), (2005)

"Wavelet-Accelerated Monte Carlo sampling of polymer chains", (with A. E. Ismail and G. C. Rutledge), *J. Polym. Sci. B: Phys.*, **43**(8), 897-910, (2005)

"Using wavelet transforms for multiresolution materials modeling", (with A. E. Ismail and G. C. Rutledge), *Comp. Chem. Eng.*, **29**, 689-700 (2005)

"The molecular signature of late-stage human ALS revealed by expression profiling of post-mortem spinal cord gray matter", (with F. Dangond, D.H. Hwang, S. Camelo, P. Pasinelli, M. P. Frosch, Greg. Stephanopoulos, R.H. Brown, and S.R. Gullans),*Physiol Genomics,* **16**, 229-239,

(2004)

"Microarray detection of E2F pathway activation and other targets in multiple sclerosis peripheral blood mononuclear cells." (with A. Iglesias, S. Camelo, D. Hwang, R. Villanueva, and F. Dangond). *Journal of Neuroimmunology,* **150**, 163-177 (2004).

"Inverse Modeling using multi-block PLS to determine the environmental conditions that provide optimal cellular function", (with D. Hwang, and Christina Chan), *Bioinformatics,* **20**, 487-499 (2004)

"Identification of Optimal Classification Functions for Biological Sample and State Discrimination from Metabolic Profiling Data", (with K. Lee, D. Hwang, T. Yokoyama, Greg Stephanopoulos and M.L. Yarmush), *Bioinformatics,* **20**, 959-969 (2003)

"Genomic dissection for characterization of cancerous oral epithelium tissues using transcription profile", (with D. Hwang, I. Alevizos, W. A. Schmitt, H. Ohyama, R. Todd, M. Mahadevappa, J. A. Warrington, D. T. Wong and Greg Stephanopoulos). *Oral Oncology*, **39**, 3, 259-68 (2003).

"Multiresolution Analysis in Statistical Mechanics. Part 2. The wavelet transform as a basis for Monte-Carlo simulations on lattices", (with A. E. Ismail and G. C. Rutledge), *J. Chemical Physics* **118**, 4424 (2003)

"Multiresolution Analysis in Statistical Mechanics. Part 1. Using wavelets to calculate thermodynamic properties", (with A. E. Ismail and G. C. Rutledge), *J. Chemical Physics* **118**, 4414 (2003)