

## PUBLICATIONS

(As of September, 2021)

### I. Thesis:

- (1) *Singular Perturbations of Boundary Value Problems for a Class of Non-linear Differential Equations with a Small Parameter*, Ph.D Dissertation, Department of Mathematics, Carnegie-Mellon University, Pittsburgh, Pa., 1969. Dissertation Advisor: **Richard C. MacCamy**.
- (2) *The Turbulent Flow of a Neutrally-Buoyant Suspension Through Bifurcation*, M.S Thesis, Department of Civil Engineering, Carnegie Institute of Technology, Pittsburgh, Pa., 1962. Thesis Advisor: **George Bugliarello**.

### I. Book and Research Monograph:

- (1) *Water Waves and Ship Hydrodynamics: An Introduction*, Martinus Nijhoff Publishers 1985, 156 pp. (with R. Timman and A. J. Hermans).
- (2) *Boundary-field Equation Methods for a Class of Nonlinear Problems*, Pitman Research Notes in Mathematics Series **331**, Longman 1995, 178 pp. (with G. N. Gatica)
- (3) Book edited: *Analysis, numerics and applications of differential and integral equations*, Pitman Research Notes in Mathematics Series **379**, Longman 1998, 256 pp. (with M. Bach, C. Constanda, A-M Sändig and P. Werner)
- (4) *Maple Projects for Differential Equations*, Prentice Hall 2003, 236 pp. (with R. P. Gilbert)
- (5) *Boundary Integral Equations*, Applied Mathematical Sciences Series, Vol. **164**, Springer-Verlag 2008, Approx. 650 pp. (with W. L. Wendland)
- (6) *Boundary Integral Equations*, 2nd edition, Applied Mathematical Sciences Series, Springer-Verlag 2021, 783 pp. (with W. L. Wendland)
- (7) *Differential Equations, A Maple Supplement*, CRC Press 2021, 243 pp. (with R.P. Gilbert and R. Ronkese)

### III. Encyclopedia-chapter:

- (1) Boundary Element Method: Foundation and Error Analysis, Chapter 12 in *Encyclopedia of Computational Mechanics*, Edited by Erwin Stein, René de Borst and Thomas J.R. Hughes. Volume 1: *Fundamentals*, pp.339–373. © 2004 John Wiley & Sons, Ltd. ISBN: 0–470–84699–2 (with W. L. Wendland).

- (2) Boundary Element Method: Foundation and Error Analysis in *Encyclopedia of Computational Mechanics Second edition*, Edited by Erwin Stein, René de Borst and Thomas J. R. Hughes. *Fundamental Part II*, pp. 1-62. © 2017 John Wiley & Sons, Ltd.  
DOI: 10.1002/9781119176817.ecm2007 (with O. Steinbach and W.L. Wendland)

#### **IV. Applied Mechanics, Oceanic Environment, Rheology and Bio-Medical Engineering:**

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- (2) Phase separation in suspensions flowing through bifurcations: A simplified hemodynamic model, *Science* **143** (1964), 469–471 (with G. Bugliarello).
- (3) The mechanism of phase separation at bifurcations, *Proceedings of Third European Microcirculation Conference*, Basel, Switzerland, R. Harders, S. Karger, ed., pp.363–367, 1965 (with G. Bugliarello).
- (4) Model studies of the hydrodynamic characteristics of an erythrocyte I. Method, apparatus and preliminary results, *Proceedings of First International Conference on Hemorheology*, Teykjavik, A.L. Copley, ed., pp. 305–321, Pergamon Press, New York, 1966 (with G. Bugliarello, et. al.).
- (5) Numerical simulation of three-dimensional flow in the axial plasmatic gaps of capillaries, *Diges. Seventh International Conference on Medical and Biological Engineering*, Stockholm, p.376, 1967 (with G. Bugliarello).
- (6) A mathematical model of the plasmatic flow in the axial plasmatic gaps of the smaller vessels, *Biorheology* **7** (1970), 5–36 (with G. Bugliarello).
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- (8) On non-stationary spectrum analysis of ocean waves, *Proceedings of International Symposium on Stochastic Hydraulics* (1971), 570–587 (with C.Y. Yang and M.A. Tayfun).
- (9) Non-stationary spectrum analysis of ocean waves *Thirteenth Coast Engineering Conference Proceedings* (1972), Volume 1, Chapter 11, 251–269 (with C.Y. Yang and M.A. Tayfun). <https://doi.org/10.9753/cce.v13.11>
- (10) Some mathematical concepts related to stochastic spectrum analysis, *ASCE National Meeting Reprint 1668* (1972), 1–23; also CMS Technical Report No. 8, College of Marine Studies, University of Delaware, June 1972, 51–73 (with M.A. Tayfun and C.Y. Yang).

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- (13) Stochastic prediction of extreme waves and sediment transport in coastal waters, *Stochastic Problems in Mechanics*, University of Waterloo Press (1974), 431–448 (with M.A. Tayfun and C.Y. Yang).
- (14) On an interface problem of elasticity, *Proceedings V., Canadian Congress of Applied Mech.*, (1975), 679–680 (with R. Kittappa).
- (15) Optimal design for wave spectrum estimates, *J. Geophys. Res.* **80**, No. 15 (1975), 1937–1947 (with M.A. Tayfun and C.Y. Yang).
- (16) Creeping flow of a viscoelastic liquid through a contraction: A numerical perturbation solution, in *Theoretical Rheology*, J.R.A. Pearson, ed., pp. 3–30, Applied Science Publ., Essex, U.K., 1975 (with J.R. Black and M.M. Denn).
- (17) Estimation of the effectiveness for a cylindrical catalyst support: A singular perturbation approach, *Chem. Engng. Sci.* **32** (1977), 63–66 (with T.C. Ho).
- (18) On slow viscous flow past cylinders, *Proc. of Third Eng. Mech.*, American Society of Civil Engineering (1979), 271–272.
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- (22) A boundary element method for fundamental problems in elasticity and fluid mechanics, *Proceeding of the 8. Tagung über Probleme und Methoden der Mathematischen Physik*, in *Probleme und Methoden der Mathematischen Physik*, V. Friedrich, M. Schneider und B. Silbermann, eds. pp. 98–103, Teubner-Texte **63**, 1984 (with W.L. Wendland).
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- (3) A Neumann series representation for solutions to boundary value problems in dynamic elasticity, *Quart. Appl. Math.* **33** (1975), 73–80 (with J.F. Ahner).
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- (5) On Dirichlet’s problem for quasi-linear elliptic equations, *Proceedings of the Conference on “Constructive and Computational Methods for Differential and Integral Equations”* (Indiana University, February 1974), Lecture Notes in Math. **430**, pp. 184–236, Springer-Verlag, Berlin, 1975 (with R.P. Gilbert).
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