

## SIGNIFICANT PUBLICATIONS OF SPYROS A. KINNAS

## Invited Chapters in Books

- Kinnas, S.A., “Theory and Numerical Methods for the Hydrodynamic Analysis of Marine Propulsors,” in *Advances in Marine Hydrodynamics*, Computational Mechanics Publications, Ch. 6, pp. 279-322, 1996.
- Kinnas, S.A., “Super-cavitating 2-D Hydrofoils: Prediction of Performance and Design,” in CD-ROM on *Super-cavitating Flows*, NATO Research and Technology Organization, January 2002.
- Kinnas, S.A., “Super-cavitating 3-D Hydrofoils and Propellers: Prediction of Performance and Design,” in CD-ROM on *Super-cavitating Flows*, NATO Research and Technology Organization, January 2002.
- Kinnas, S.A. “*Theory of Cavitation*”, Chapter 6 in *The Principles of Naval Architecture Series: Propulsion*, Nov. 2010, J.E. Kerwin and J. Hadler, Society of Naval Architects and Marine Engineers (SNAME)
- Kinnas, S.A. “*Simulation of Cavitating and Free Surface Flows Using BEM*,” Chapter 9 in *Boundary Element Methods in Engineering and Sciences*, Imperial College Press, pp. 323-363, 2011.
- Kinnas, S.A. “*Hydrodynamic Analysis of Marine Propulsors*,” in *Encyclopedia of Maritime & Offshore Engineering*, Wiley, January 2018,  
<https://onlinelibrary.wiley.com/doi/10.1002/9781118476406.emoe104>

## Refereed Journals

1. Kerwin, J.E., Kinnas, S.A., Lee, J.-T. and Shih, W.-Z., “A Surface Panel Method for the Hydrodynamic Analysis of Ducted Propellers,” *Trans. SNAME*, Vol. 95, pp. 93-122, 1987.
2. Kinnas, S.A., “Leading Edge Corrections to the Linear Theory of Partially Cavitating Hydrofoils,” *Journal of Ship Research*, Vol. 35, pp. 15-27, 1991.
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4. Kinnas, S.A., “Inversion of the Source and Vorticity Equations for Super-cavitating Hydrofoils,” *Journal of Engineering Mathematics*, Vol. 26, pp. 349-361, 1992.
5. Kinnas, S.A. and Hsin, C.-Y., “Boundary Element Method for the Analysis of the Unsteady Flow Around Extreme Propeller Geometries,” *AIAA Journal*, Vol. 30, pp. 688-696, 1992.
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7. Hughes, M.J., Kinnas, S.A. and Kerwin, J.E., “Experimental Validation of a Ducted Propeller Analysis Method,” *Journal of Fluids Engineering*, Vol. 114, pp. 214-219, 1992.
8. Kinnas, S.A. and Coney, W.B., “The Generalized Image Model - An Application to the Design of Ducted Propellers,” *Journal of Ship Research*, Vol. 36, pp. 197-209, 1992.
9. Fine, N.E. and Kinnas, S.A., “A Boundary Element Method for the Analysis of the Flow Around 3-D Cavitating Hydrofoils,” *Journal of Ship Research*, Vol. 37, pp. 213-224, 1993.
10. Kinnas, S.A. and Fine, N.E., “A Numerical Nonlinear Analysis of the Flow Around 2-D and 3-D Partially Cavitating Hydrofoils,” *Journal of Fluid Mechanics*, Vol. 254, pp. 151-181, 1993.
11. Kinnas, S.A. and Mazel, C.H., “Numerical vs. Experimental Cavitation Tunnel (A Super-cavitating Hydrofoil Experiment),” *Journal of Fluids Engineering*, Vol. 115, pp. 760-765, 1993.
12. Kinnas, S.A. and Hsin, C.-Y., “The Local Error of a Low-Order Boundary Element Method at the Trailing Edge of a Hydrofoil and its Effect on the Global Solution,” *Computers and Fluids*, Vol. 23 (No.1), pp. 63-75, 1994.
13. Kinnas, S.A., “An International Consortium on High-Speed Propulsion,” *Marine Technology*, Vol. 33 (No. 3), pp. 203-210, 1996.
14. Mishima, S. and Kinnas, S.A., “A Numerical Optimization Technique Applied to the Design of Two-dimensional Cavitating Hydrofoil Sections,” *Journal of Ship Research*, Vol. 40, pp. 28-38, 1996.
15. Pyo, S. and Kinnas, S.A., “Propeller Wake Sheet Roll-up Modeling in Three Dimensions,” *Journal of Ship Research*, Vol. 41, pp. 81-92, 1997.
16. Mishima, S. and Kinnas, S.A., “Application of a Numerical Optimization Technique to the Design of Cavitating Propellers in Nonuniform Flow,” *Journal of Ship Research*, Vol. 41, pp. 93-107, 1997.
17. Brewer, W.H. and Kinnas, S.A., “Experiment and Viscous Flow Analysis on a Partially Cavitating Hydrofoil,” *Journal of Ship Research*, Vol. 41, pp. 161-171, 1997.
18. Choi, J.-K. and Kinnas, S.A., “Numerical Water Tunnel in Two and Three Dimensions,” *Journal of Ship Research*, Vol. 42, pp. 86-98, 1998.
19. Griffin, P.E. and Kinnas, S.A., “A Design Method for High-speed Propulsor Blades,” *Journal of Fluids Engineering*, Vol. 120, pp. 556-562, 1998.
20. Kinnas, S.A., Kimball, R.W. and Choi, J.-K., “Cavitating Propeller Experiment (CAPREXIII) Measurement and Prediction of Tunnel Pressures,” *Journal of Ship Research*, Vol. 42, pp. 233-248, 1998.
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25. Choi, J.-K. and Kinnas, S.A., “Prediction of Non-axisymmetric Effective Wake by a 3-D Euler Solver,” *Journal of Ship Research*, Vol. 45, pp. 13-33, March 2001.
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## Papers in Proceedings of Conferences

1. Kerwin, J.E., Kinnas, S.A., Wilson, M.B. and McHugh, J., “Experimental and Analytical Techniques for the Study of Unsteady Propeller Sheet Cavitation,” Proceedings of the *Sixteenth Symposium on Naval Hydrodynamics*, Office of Naval Research, National Academy Press, pp. 387-414, 1986.
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11. Brewer, W.H. and Kinnas, S.A., “Experimental and Computational Investigation of Sheet Cavitation on a Hydrofoil,” *The 2nd Joint ASME/JSME Fluids Engineering Conference & ASME/EALA 6th International Conference on Laser Anemometry*, Hilton Head Island, SC, August 1995.
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