

# Paul Kamen

Naval Architect, P.E.

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## **Summary**

Naval Architect with degrees from Webb Institute of Naval Architecture (1973) and U.C. Berkeley (1979) and California P.E. license (mechanical). Areas of specialization include surface-piercing propellers and propulsion systems, forensic naval architecture and small craft accident reconstruction, tidal energy and ocean thermal energy conversion.

## **Employment History**

**1989-present:** Independent naval architecture consultant. Clients include Nautilus Data Technologies, Arneson Research, Arneson Marine, Morris Guralnick Associates and M. Rosenblatt & Son. Major projects include surface propulsion applications, sea trials and analysis of high speed amphibious vehicles, hybrid hydrofoil systems, tank testing of propulsion systems and vessel motion analysis. Provide expert testimony for lawsuits involving collision and accident reconstruction, drive failures, yacht sinking, yacht dismasting, personal watercraft (PWC) and tubing accidents, fishing vessel capsizing, and injury resulting from vessel motions, propeller contact, sail handling and other causes.

**1987-1989:** Arneson Marine, Inc., 15 Koch Rd, Unit E, Corte Madera, CA 94925. (relocated to 29485 Airport Road, Eugene, OR 97402)

Applications Naval Architect. Responsible for speed and power estimates for a large number of projects involving high speed vessels of all types. Developed computer programs to predict speed and resistance of high-speed vessels, calculate propulsive efficiency of surface-piercing propellers and select propellers and driveline components. Responsibilities included support for sales staff, technical presentations and project management. Participated in mechanical design of new products. Collected and maintained database of sea trial results.

**1977-1986:** Morris Guralnick Associates Inc., 130 Sutter St., San Francisco, CA 94104 (now Archimedes Engineering, 2099 Grand St., Alameda CA 94501)  
Senior Naval Architect. Responsible for projects including ship design, structural analysis, seakeeping analysis, tank testing and program development. Conducted ship inclining trials, on-sight structural tests and full scale ship motion experiments. Familiarity with a number of commercial finite element structural analysis programs for mainframe and microcomputers, as well as specialized hydrostatics and seakeeping programs. Developed in-house computer programs for hydrostatics, structural analysis and dynamic simulation.

**Ocean Thermal Energy Conversion** While at Morris Guralnick Associates, developed conceptual design for the 400 MW OTEC floating power plant under DOE and Lockheed contracts. Performed dynamic analysis of several configurations of OTEC cold water supply pipe designs, including wave response and vortex shedding. Participated in design and implementation of the 100 KW OTEC demonstration project.

**1975-1976:** University of California, Berkeley, Department of Naval Architecture.  
Research Assistant. Performed tank tests and numerical simulations of large ship motions and capsizing in following seas.

**1973:** U.S. Coast Guard R&D Center, Groton, Conn.  
Naval Architect. Conducted open-water and tank tests of full-scale recreational vessels. Tests involved maneuvering, dynamic roll response and flotation in support of revised small craft safety recommendations.

### **Continuing Sideline**

Contributing editor, Latitude 38, Mill Valley, CA.  
Monthly columnist, writing about sailing and small craft technology since 1980

### **Education**

**1973-1979:** University of California, Berkeley.  
Master of Engineering. Major: Naval Architecture.

**1969-1973:** Webb Institute of Naval Architecture, Glen Cove, N.Y.  
Bachelor of Science. Major: Naval Architecture and Marine Engineering.

### **Papers, Publications and Conferences**

**"Forensic Engineering of PWC Off-Throttle Steering Accidents,"** National Academy of Forensic Engineers, January 2016.

**"Forensic Analysis of Personal Watercraft Steering and Braking,"** Society of Forensic Engineers and Scientists, Spring Seminar, March 2015

**"Personal Watercraft Steering, Braking and Testing,"** Chesapeake Power Boat Symposium, Annapolis, MD, March 2010

**"An Overview of Ocean Renewable Energy,"** SNAME annual meeting, October 2009 and SNAME Proceedings, 2009.

**"Forensic engineering of propeller contact injuries,"** January 2008 meeting of the National Academy of Forensic Engineers, and February 2008 meeting of the American Academy of Forensic Scientists. AAFS Proceedings, February 2008.

**"Urban Passenger-Only Ferry Systems: Issues, Opportunities and Technologies"** SNAME annual meeting, October 2006 and SNAME Proceedings, 2006.

**San Francisco Bay Interdisciplinary Ferry Round Table Conference** co-organizer and speaker, October 2003.

**"Ferries For The San Francisco Bay Area; New Paradigms From New Technologies"** Joint meeting of California sections of the Society of Naval Architects and Marine Engineers, Asilomar, June 2001, the D.C. SNAME section, December 2003, and the joint ASME/SNAME Northern California meeting, 2005.

**"Catastrophic Failures of Recreational Marine Equipment as Depicted by the Contemporary Media,"** a parody paper for the "Materials in Sports" symposium of the Material Research Society, San Francisco, April 1 1997.

**"Is there a Surface Drive in your Future?"** Professional Boatbuilder, December/January 1990.

**"Application of Surface Propulsion Systems,"** Society of Naval Architects and Marine Engineers, Northern California Section, 1989.

**"Articulated Surface Drives - Basic Considerations for Designers and Builders,"** Westlawn Yacht Design Symposium, New York, 1988.

**"Offshore Incineration of Municipal Solid Waste,"** Society of Naval Architects and Marine Engineers, Northern California Section, 1985.

**"Computers in Small Craft Design,"** Ancient Interface Symposium, 1981.

**Over 400 published articles** on small craft technology and operation in regional sailing magazine *Latitude 38* (circulation 48,000), 1980-2016.

## **Patents**

**US20100013228** and Canadian **CA2631204A1**, surface piercing tidal generator

## **Memberships**

**Society of Naval Architects and Marine Engineers**

**National Academy of Forensic Engineers**

**National Society of Professional Engineers**

**San Francisco Bay Yacht Racing Association**, Board of Directors

**Berkeley Racing Canoe Center**, Board of Directors

**U.S. Sailing Area Appeals Committee and certified racing rules Judge**

**Berkeley Parks & Waterfront Commission** (vice-chair)

## **Past memberships**

**International Dragon Boat Federation**, Competition and Technical Committee

**Berkeley Waterfront Commission**, (Chair 2001, 2002, 2005, 2006, 2011, 2012)

**Berkeley Yacht Club**, Board of Directors

**California Dragon Boat Association**, Board of Directors

**Cal Sailing Club**, Commodore

**Midget Ocean Racing Association**, regional measurer  
**Pacific Cup Yacht Club**, Board of Directors