

**DAVE GERR, CEng FRINA**

## **SUMMARY**

- Naval architect specializing in the design of vessels under 200 feet, yacht and commercial
- Marine surveyor specializing in complex and unusual accident, damage and failure analysis
- Expert witness, with fifteen years of experience in cases related to boats, boating accidents and boat design
- Educator, with extensive experience in distance-learning, accreditation, curriculum development, school management, publicity and marketing, and student relations
- Author of books and technical articles on naval architecture, boatbuilding, marine technology and history
- Lecturer on technical and historical topics in naval architecture, boatbuilding, and boat systems installation and engineering

## **EDUCATION**

Westlawn Institute of Marine Technology, diplomate in yacht & small-craft architecture, May 1989

Pratt Institute, industrial design 1973-1974

New York University, physics 1971-1973

## **PROFESSIONAL LICENSES**

Chartered Engineer (CEng), Engineering Council, UK, Registration No. 605383

## **AFFILIATIONS**

Royal Institution of Naval Architects (RINA), fellow

Society of Naval Architects and Marine Engineers (SNAME), member

American Boat & Yacht Council (ABYC), member

## **CAREER HISTORY**

**Forcon International** - Provides forensic investigation and expert witness services regarding boats, boating accidents, and boat design.

**Gerr Marine, Inc.** - President & Chief Naval Architect

Partial Listing of Representative Projects - perform or supervise all aspects of design and engineering.

- General Dynamics/Electric Boat/US Navy - Groton, CT - Subcontractor/consultant on design and arrangement of all ergonomic aspects of the crew accommodations for the new Virginia-Class (SSN 774) U.S. nuclear attack submarines.
- Cape Dory Yachts/Newport Shipyards - Amityville, Long Island - naval architect and engineer in charge of all aspects of design and production (machinery, hull, glasswork) on all models-Cape Dory 40; Cape Dory 28; Sumner 36. Consultant on repairs, customer questions and problems, computer applications.

- 120-foot aluminum single-screw clipper-bow motor yacht - Classic-styling, clipper-bow, counter-stern, long-range, motoryacht. Hundestead controllible-pitch propeller, accommodations for 6 in owner and guest, 6 in crew. Lloyds Maltese Cross 100 A1 and MCA classification. For St. Augustine Marine, St. Augustine, FL.
- 82-foot aluminum single-screw voyaging motor yacht - Slender hull form for economy and seakeeping, 4,500 mile range at 11 knots, for construction at Kanter Yachts, St. Thomas, Ontario. Featured in Yachting magazine, Dec. 1993.
- 76-foot aluminum single-screw ultra-shoal fantail motoryacht - Fully beachable, drawing just 42 inches, cruises at 12 knots, with a top speed of 14, fully transatlantic capable. Built by St. Augustine Marine, St. Augustine, FL, launched March, 2008.
- 75-foot FRP staysail charter schooner - Draft just 4 feet. U.S. Coast Guard certified for 49 passengers day charter coastwise, and 8 passengers plus 3 crew offshore. For American Dream Makers, Inc., Lower Bank, NJ.
- 74-foot aluminum fast ferry - Twenty-seven knot cruise, 149-passenger, two-deck offshore T-boat, designed for soft ride at cruise speed in offshore conditions. For the Puerto Rico Port Authority.
- 65-foot 149-passenger steel dinner/cruise boat - Two-deck, dinner/cruise boat, for operation in the Genesee River and Erie Canal, with 15-ft. 6-in. bridge-clearance restriction. U.S. Coast Guard certified for 149 passengers coastwise plus 8 crew. For Corn Hill Waterfront & Navigation Foundation, Rochester, NY.
- 60-foot steel army T-boat (tug) conversion - Complete gutting, redesign, and refit of army tug boat as live-aboard home. Construction and launching by South Bay Boat Repair, Patchogue, NY, September 1993.
- 60-foot class-1 BOC boat, ultra light ocean-racing cutter - Believed to be lightest true ocean-racing sailboat in the world, with real loaded D/L ratio of 40, wood/epoxy/unidirectional S-glass construction, unidirectional S-glass fin keel; launched Summer 1995 at Pilot's Point Marina, CT, 1st transatlantic 1996. Featured design in Soundings magazine, April 1990.
- 58-foot twin-diesel Westbourne 58 express cruiser - FRP/DuraKore construction, 38 knots top speed, 30 knots cruise. For mass production at Westbourne Custom Yachts, Oceanside, CA.
- 57-foot aluminum single-screw diesel voyaging motorcruiser - Designed for world cruising with a family of five, 4,500 mile range, extreme ease and precision of handing at low speed with specialized rudder, launched June 1998, at Kanter Yachts, St. Thomas, Ontario. Featured test boat in Motorboating & Sailing magazine, Dec. 1998.
- 57-foot composite FRP performance motorsailer - Designed to achieve 14 knots under sail and 14 knots under power, DuraKore/epoxy/unidirectional S-glass construction, 20,000 lb. lifting keel, shifting water ballast, 275-hp diesel.
- 52-foot aluminum clipper-bow cruising ketch - Moderate-draft, twin-rudder/twin-skeg configuration, can take ground level and upright on three-point keel-skeg "tripod" base; twin-screws in twin skegs give reliability and enhanced maneuverability. Launched August 1998 at Kanter Yachts, St. Thomas, Ontario. Featured in Ocean Navigator/American Yacht Review magazine, Jan. 1999.
- 52-foot twin-diesel Westbourne 52 express cruiser - FRP/DuraKore construction, 38 knots top speed, 30 knots cruise. For mass production at Westbourne Custom Yachts, Oceanside, CA.

- 50-foot tunnel-drive ultra shoal, single-screw diesel motorcruiser - Wood/epoxy strip-plank construction, just 26-inch draft, fully ocean capable, launched May 2000 at Covey Island Boatworks, Lunenburg County, Nova Scotia.
- 50-foot fantail, single-screw diesel motorcruiser - Sea Bright skiff hull form with fantail stern, aluminum construction, designed for long-range ocean voyaging with 3,500-mile range. Launched October 2002, at Kanter Yachts, St. Thomas, Ontario.
- 47-foot tunnel-drive ultra shoal, single-screw diesel motorcruiser - Wood/epoxy strip-plank construction, just 25-inch draft, fully ocean capable. Launched June 2002, at Covey Island Boatworks, Lunenburg County, Nova Scotia
- 44-foot high-performance sailing/cruising catamaran - Vinylester-FRP/composite construction, ultra-lightweight, slender hull form, for mass production for Slipstream Yachts, Trumbull CT, launched August 1996. Featured in Sailing magazine, June 1996.
- 44-foot twin-diesel Westbourne 44 express cruiser - FRP/DuraKore construction, 36 knots top speed, 30 knots cruise. For mass production at Westbourne Custom Yachts, Oceanside, CA. Hull number 1 launched Winter 1998, hull number 2 launched March 1999. Featured cover story in Yachting magazine, August 1999.
- 42-foot tunnel-drive, ultra shoal, single-screw, diesel motorcruiser - Wood/epoxy strip-plank construction, just 22-inch draft, fully ocean capable. Built by Covey Island Boatworks, Lunenburg County, Nova Scotia, launched June 1996. Featured in Wooden Boat magazine issue nos. 121 and 143. Hull number 1 has weathered severe conditions offshore, with the crew reporting unusual comfort and ableness. Hull number 2 launched May 2000, at Covey Island Boatworks.
- 42-foot triple-diesel, triple-jet-drive, patrol/supply boat - FRP/epoxy DuraKore construction, 332 mile range at 40 knots, 1700 mile range at 18 knots, extreme shoal draft, cargo hold.
- 41-foot single-jet-drive, Coastal Flyer express cruiser - E-glass/Kevlar-hybrid/sandwich/composite construction, 25 knot cruise, Ultra Jet jet-drive, express cruiser. For mass production at Santa Cruz Yachts, Watsonville, California. Hull number 1 launched August 2001. Hulls number 2 and 3 launched April 2002.
- 34-foot twin-diesel FRP Off Soundings 34 sportfisherman - FRP/balsa-core construction, 33 knot top speed, 26 knot cruise. For mass production, at Off Soundings Yachts, Manorville, Long Island, 8 hulls launched 1993 through 1997. A Yachting magazine best pick for 1996.
- 28-foot outboard Offshore Skiff - Tape-seam sheet-plywood construction, 30-knot, center-console fishing/work skiff, and full-headroom cabin-cruiser version. Numerous vessels built, including a workboat fleet of 6 for FMC Foods Corp., the Philippines, 1995, and a 45-mph sterndrive cabin-cruiser version by Hills Marine, Seal Beach, CA, 1996.
- 25-foot traditional FRP motor launch/cruiser - For mass production at Amsterdam Boatworks, Amsterdam, NY, 3 boats delivered.
- 19-foot canoe-stern sloop - Built at North River Boatworks, Albany, NY, 1986, wood-epoxy lapstrake construction. Voted 2nd most attractive boat at 1986 Newport Wooden Boat Show.
- 11-foot tape-seam sheet-plywood Nester Dinghy - A come-apart nesting dinghy, for home builders and small yards. Specially designed/engineered custom joining clamps. Over 400 plans sold, several dozen boats built. Featured in Yachting magazine, January 1996.

**MacLear & Harris, Inc.** - Projects as Subcontractor for (partial listing):

- 106-foot aluminum cutter - designed in conjunction with John Bannenberg Ltd., England  
detailed computer stability analysis, including check of free surface effect of tanks and flooded deck areas  
detailed rig design - comparison of steel and aluminum rig structures  
investigation of suitability of Bergstrom/Ritter rig  
speed, powering, rudder and lateral plane calculations  
perspective sketches of complex multidirectional side access well  
structural analysis of side access well  
preliminary electrical system design
- 440-foot steel sailing cruise ship for Caribbean and Pacific cruise-line trade, for Circle Line, New York City  
rig analysis, deck layout and general arrangement, preparation of preliminary specifications, stability analysis, preparation of publication drawings
- 70-foot FRP motorsailer  
deck and general arrangement, speed and powering calculations, hull scantling calculation
- 64-foot high-speed trimaran  
structural analysis of cross arms and amas (outer hulls) in aluminum, cold-molded wood epoxy and Kevlar-S-glass-graphite fiber composite, stability analysis, rig analysis

**MacLear & Harris, Inc.** - Naval Architect

Design, engineering, drawings for all projects at MacLear & Harris during this period.

Partial list of projects:

- 90-foot aluminum brigantine - built at Palmer Johnson, Wisconsin. Launched summer 1983; all 9 sails (over 3,000 sq.ft.) roll up electrically at the touch of a button in under 90 seconds.  
design and engineering of bowsprit, masts, yardarms, stability calculations, speed and powering calculations, refrigeration system, rudder, steering mechanism and autopilot, electric roller-furling system, engineering and design of blocks, fittings, davits, winch bases, anchor rollers, chain locker, hatches, chainplates, design and layout of navigation area, all to Lloyds Maltese Cross 100 A1 classification
- 64-foot swing-keel cutter built at Goetz Custom Boats, Rhode Island, launched fall 1983. Vessel has 8,000-pound, hydraulically actuated swinging keel that pivots from side to side for shifting ballast and also raises and lowers for reduced draft. Two additional hydraulically actuated centerboards fore and aft provide additional lateral plane; the rudder also pivots up and down hydraulically, all at the touch of a button. Vessel has a 19-foot gig that fits into the cockpit well under the cockpit floorboards.
  - participated in design and engineering of all aspects of the swinging keel and hydraulic mechanism
  - design and engineering of all aspects of the fore and aft centerboards and rudder
  - design and engineering of hydraulic autopilot linkage for the rudder under extreme space restrictions
  - detailed stability calculations and analysis
  - rig and sail plan design and analysis
  - detailed investigation of effects of "jumboizing" to 90 feet
  - analysis of sea trial results
  - design of cockpit-well/removable-floorboard system for stowing gig

- 32-foot stepped-hull, aluminum sportfisherman - built at Carija & Son Boatworks, Mystic, CT, launched summer 1984.  
displacement and stability, calculation and specification of required scantlings and construction drawings, detailed design of complete electric system, design and engineering of tuna tower, bait and fishwells, specification of running lights and safety equipment to meet Coast Guard requirements

## **EDUCATOR**

- Dec. 16 - Recipient of the United University Professions 2016 Discretionary Award
- Aug. 15 - Present: Adjunct Professor of Naval Architecture at SUNY Maritime College:  
Lecturer on boat design teaching:  
ENGR 472 Sailboat Principles and Design  
ENGR 476 Powerboat Principles and Design
- May 03 - Dec. 14: Director/CEO of the Westlawn Institute of Marine Technology:  
Direct and supervise all aspects of operation of the Westlawn Institute, the only school in the world solely dedicated to teaching small-craft naval architecture:  
Create, upgrade and manage curriculum, including writing new textbooks and question papers; grade advanced papers; advise students; supervise teaching and administrative staff; develop and manage budget; supervise and manage accreditation process; marketing; website development; create and publish quarterly online technical journal, The Masthead; provide technical and engineering support to ABYC; member of the board of directors

## **BOOKS**

- **Boat Mechanical Systems Handbook** - The first comprehensive handbook on the design, installation, configuration, and trouble-shooting of all fundamental boat mechanical systems: drivetrain installations; fuel systems; exhaust systems; rudder and steering systems; ventilation, air/conditioning and heating systems; plumbing systems (including sea suction, bilge, fire mains and fire suppression, pumps, fresh water); and anchoring systems. Published by International Marine/McGraw-Hill, 2009. In 4th printing. Published in a Turkish edition, 2011, as *Tekne Mekanikçi Elkitabı* (Boat Mechanical Engineering Handbook), Translated by Doğan Çelen, Turkish publisher: Amatör Denizcilik Federasyonu (ADF)
- **The Elements of Boat Strength** -The first dedicated, comprehensive handbook on engineering boat structures up to 120 feet, in all materials: fiberglass, wood, aluminum, and steel. It includes complete scantling rules; detailed discussion of, history, materials, and methods; and of best practice and avoiding pitfalls. Used as a textbook for over ten years, in Professor Paul Miller's first-year naval architecture class, at the U.S. Naval Academy, Annapolis, MD. Published by International Marine/McGraw-Hill, 2000. In 14th printing.
- **Propeller Handbook, The Complete Reference for Choosing, Installing and Understanding Boat Propellers.** - The industry-standard reference on propellers, the first and only dedicated technical handbook on propeller operation and selection specifically for yachts and commercial vessels under 200 feet overall. Published jointly in the U.S. and the

U.K. by International Marine/McGraw-Hill and by A&C Black (Publishers) Ltd., London, 1989.  
In 10th U.S. printing.

- **The Nature of Boats, Insights and Esoterica for the Nautically Obsessed** - International Marine's best seller for 1994. A compendium of design information on boats. Used as a textbook at the Landings School, Cape Cod Regional Tech, and several other marine training programs. Required reading for National Association of Marine Surveyor's CMS test. A Dolphin Book Club main-selection. Published by International Marine/McGraw-Hill, 1992, 2 hardcover printings. Paperback edition published Spring 1995. In 14th printing.
- **Pocket Cruisers for the Backyard Builder** - published by International Marine/McGraw-Hill, 1987, two printings.

### ARTICLES

- **Contributing editor for:**  
Sail Magazine 2008-2011; Offshore Magazine 1986-2003; Boatbuilder Magazine 1986-2004;  
Yachting Magazine 1995-1996
- **Over 400 articles published since 1983** in the above magazines plus:  
WoodenBoat, National Fisherman, Boating, Cruising World, Sail, Boat Journal, Soundings,  
Ocean Navigator, Southern Boating, Powerboat Reports, Good Old Boat, Professional  
Boatbuilder, ABYC Reference Point, China Yachting, PassageMaker, Sextant (Society of Boat  
& Yacht Designer)

### SEMINARS

- **IBEX (The International Boatbuilders' Exhibition & Conference) 2001-2014:**  
Efficient Powerboat Design, Fundamental Concepts of Boat Stability, Drivetrain Systems,  
Propeller Selection and Sizing, Wet exhaust Installations, Fuel Systems for Boats, Rudders  
and Steering Systems, Anchoring Systems, Dry Exhaust Systems, Noise Control and  
Reduction, Elements of Boat Strength Scantling Rule, Fin-Keel Structural Engineering
- **USCG (United States Coast Guard) Accident Mitigation Meeting 2012, at IBEX:**  
Report on findings from the analysis of the capsizing of the 34-foot Silverton Kandi One, and  
need for stability standards
- **METS (Marine Equipment Trade Show) 2011:**  
Propeller Selection and Sizing
- **NOAA (National Oceanic and Atmospheric Administration) 2011:**  
Design Details Critical to Safe and Successful Boats
- **The Boat School 2010-2011:**  
Drivetrain Systems, Propeller Selection and Sizing, Fundamental Concepts of Boat Stability,  
Design Details Critical to Successful Boats
- **ABYC (American Boat & Yacht Council) Webinar 2010:**  
Propeller Selection and Sizing

- **YBAA (Association of Yacht Sales Professionals) 2009:**  
Principles of Planing Hull Design
- **SAMS (Society of Accredited Marine Surveyors) 2009 & 2014:**  
Fundamental Concepts of Boat Stability, Moisture Meters - Principles of Operation and Correct Application
- **NAMS (National Association of Marine Surveyors) 2006:**  
Drivetrain Systems
- **Webb Institute 2002:**  
Principles of Planing Hull Design