



**DESIGN
RESEARCH
ENGINEERING**

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Dr. STUART M. WILLIAMS

PROFESSIONAL PROFILE – NAVAL ARCHITECT

- Areas of specialization include ship design, ship acquisition, risk management, performance indicators, risk analysis, and casualty analysis.
- Senior program management experience in the application of state of the art programmatic approaches to effectively manage large projects in science, ship acquisition and information technology.
- Strengths include establishing well-defined requirements to allow for seamless development of product design and construction while incorporating cost saving initiatives.
- Leadership background and track record in organizing program offices and incorporating collaborative tools to integrate geographically dispersed and multi-disciplinary product teams.
- Extensive knowledge of civilian and military agencies of the federal government (National Oceanic & Atmospheric Administration, National Science Foundation, U.S. Navy and Coast Guard) with experience in the development and management of major acquisition programs.

ACADEMIC CREDENTIALS

B.S.E. Naval Architecture & Marine Engineering

University of Michigan, Ann Arbor, Michigan, 1972.

M.S.E. Ship Production Technology

University of Newcastle-Upon-Tyne, Newcastle, England, United Kingdom, 1976.

Ph.D. Naval Architecture

University of Strathclyde, Glasgow, Scotland, United Kingdom, 2020. Maritime Safety Research Centre. Focus areas: safety performance, risk management, risk analysis, and casualty analysis.

PROFESSIONAL EXPERIENCE

DESIGN RESEARCH ENGINEERING

2020 – Present

Senior Engineering Consultant

ECS FEDERAL, Fairfax, Virginia

2010 – Present

Chief Engineer, Marine Group

Risk Manager, NOAA Program Management Council, chaired by Deputy Undersecretary for Operations

- Coordinated drafting of a fifteen-year plan for modernizing the NOAA fleet of research and survey ships.
- Conducted feasibility studies and analysis of alternatives to select lead ship for class of large ocean survey vessels. Developed acquisition approach, risk analysis and prepared review information for major milestones.

CONSORTIUM FOR OCEAN LEADERSHIP, Washington, DC

2004 – 2010

Project Director, Ocean Observatories Initiative (2006 – 2010)

- Developed and negotiated the award of \$769.5M contract with the National Science Foundation (NSF).
- Contracted with 3 oceanographic institutions to develop and construct observatories and related cyber-infrastructure (University of Washington, cabled seafloor systems and moorings on Juan de Fuca tectonic plate; Woods Hole Oceanographic Institution, coastal and global moorings and autonomous vehicles; University of California at San Diego, cyberinfrastructure).
- Completed the ocean observatories design, including 800km cabled component with multiple expandable nodes.



Director, Scientific Ocean Drilling Vessel (2004 – 2006)

- Coordinated the planning and execution of a \$115M service life extension to the drill ship that supports the NSF's Integrated Ocean Drilling Program.
- Conducted the source selection process to select the drill ship and the operator.
- Developed all programmatic documents and plans, including the Project Execution Plan, the Risk Management Plan and the Earned Value Plan.

BMT SYNTEK, INC., Ballston, Virginia

2001 – 2004

Director, Systems Engineering

- Program Executive Officer, Coast Guard Deepwater Program; executive staff as government's Risk Manager.
- Provided acquisition and management support during the source selection period.
- Helped implement the program's earned value management system and conducted on-site reviews.

NATIONAL OCEANIC and ATMOSPHERIC ADMINISTRATION (NOAA)

1994 – 2001

Fisheries Research Vessel (FRV) Acquisition Manager, System Acquisition Office (SAO) (1999 – 2001)

Chief Information Officer (CIO), Office of Finance & Administration (OFA); first CIO for NOAA OFA

- CIO-OFI provided all computer support services for NOAA Headquarters, including IT systems providing support for budget, finance and human resources.
- Managed the design and construction of the first of four FRV ships for the National Marine Fisheries.
- Developed the design and solicitation package and conducted the source selection for the FRV Program.

Acquisition/Deputy Program Manager, Advanced Weather Interactive Processing System (1994 – 1999)

- Senior Executive responsible for a major restructuring of this critical National Weather Service IT program and for defending the program before the Government Accountability Office, Office of Management and Budget and other Congressional investigations.
- Managed the development of 3.2M lines of custom code from four NOAA labs and the prime contractor.
- Beat the congressional budget cap (\$550M) by delivering all systems for \$539M.

Acting Deputy Director, SAO (1993 – 1994)

- Responsible for 7 major acquisitions worth \$4.5B under contract.
- Managed 225 engineers and acquisition specialists.

Deputy Program Manager, Fleet Replacement and Modernization, SAO (1992 – 1993)

- Served as Deputy Program Manager of the \$1.4B research ship modernization program.
- Developed modernization plan, ship designs and acquisition packages to replace NOAA's aging fleet of research ships.

PDI CORP, Annapolis, Maryland

1987 – 1992

Vice President

- Directed the development and construction of a full fidelity trainer for the Machinery Control System on the DDG-51 trainer installed at the Great Lakes Training Command.
- Effectively marketed electronic manufacturing, software engineering and engineering services to a range of federal government clients and private corporations.

NAVAL SEA SYSTEMS COMMAND (NAVSEA), Washington. D.C.

1972 – 1987

Series of NAVSEA ship design and acquisition positions with progressively more responsibility, including:

Ship Design Manager (MSH) (1986-1987)

Acting Deputy Program Manager and Technical Director of PMS, Support Ships, Boats and Craft Program Office (reports to Assistant Secretary of the Navy for Research, Development and Acquisition, U.S. Department of the Navy) (1985)

- NAVSEA PMS 383 (now PMS 325) with twenty-two ship construction contracts valued at \$10.5B; managed 65 staff. PMS provides integrated ship, boat and craft products and services to U.S. and international maritime forces around the world. Participated in multiple source selections for various ship classes.

Deputy Director to the Board of Vice Admirals, Office of the Chief of Naval Operations, U.S. Department of the Navy (1982-1984)

- Worked in Pentagon to re-establish the Ships Characteristics Improvement Board as the first Deputy Director.

Lead Naval architect (1972-1982)

- Led design of a cable repair ship (T-ARC 7), mine warfare ships (MCM and MSH) and an amphibious assault ship (LHD). Managed the development of complete design and technical specification packages for bid packages.

PUBLICATIONS

Puisa R., Williams, S, Vassalos D, “Towards an explanation of why onboard fires happen: The case of an engine room fire on the cruise ship ‘Le Boreal’,” May 2019, Applied Ocean Research. 88, p. 223-232 (July 2019):223-232 and “Systems Approach to Accident Analysis: Engine Room Fire on Cruise Ship ‘Le Boreal’”, 7th International Maritime Conference on Design for Safety, Sep 16-21, 2018, Kobe, Japan.

Williams, S, “Use of STAMP/STPA to model organizational risk and safety management at cruise and ferry companies,” Presented at the 6th European STAMP Workshop and Conference, Amsterdam, Netherlands, on Nov 1, 2018; MATEC Web of Conferences, Volume 273, Jan 2019.

STAMP: Systems-Theoretic Accident Model and Processes, STPAL STAMP-Based Process Analysis.

Williams, S, “Improving ship safety by integrating risk management into the SMS framework and tracking new key performance indicators,” Pacific International Maritime Conference, Sydney, Australia, October 8-10, 2019.

Williams, S., “Integrating Holistic (Enterprise) Risk Management into the SMS Framework”, Conference Paper, Society of Naval Architects and Marine Engineers (SNAME), SNAME Maritime Convention, Tacoma, Washington, USA, Oct 30-Nov 1, 2019, Conference Paper SNAME-SMC-2019-026.

Williams, S, “Using Enterprise Risk Management to Improve Ship Safety,” Proceedings of the 13th International Marine Design Conference, June 10-14, 2018, Helsinki, Finland; Marine Design XIII, Volume 2, Chapter 56 Pages.

Sanderlin, TN, Williams, SM, Jamieson, RD, “Cable Ship Design,” Society of Naval Architects and Marine Engineers-Transactions, Volume 87, pages 26-39, Presented at the meeting of the SNAME, Chesapeake Section, on Apr 18, 1979.