Curriculum Vitae

David Burton

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Degrees

- **Ph.D.,** Mathematics, Vanderbilt University, Nashville, Tennessee, August 1997
  - Advisor: Daoxing Xia
  - Dissertation: *On Hyponormal Tuples of Commuting Operators with Finite Rank Self-Commutators*
- **M.A.,** Mathematics, Vanderbilt University, May 1994
- **B.S.,** U.S. Naval Academy, Annapolis, Maryland, May 1981, with honors. (71/965)

Other Graduate Level Education:

- **U.S. Navy Nuclear Engineer School:** Eight-week course in all aspects of Naval Reactor plant operation and design. (1985, Groton Connecticut)
- **U.S. Navy Trident Design School:** Five-week course with advanced technology S8G reactor plant. Involved classroom and hands-on training at a full-scale prototype. (1984, Ballston Spa, New York)
- **U.S. Navy Submarine School:** Twelve-week course in non-propulsion plant related aspects of the design and operation of submarines. (1982, Groton Connecticut)
- **U.S. Naval Nuclear Prototype:** Six-month school involving classroom and hands-on training at a full-scale nuclear prototype. (1982, Windsor, Connecticut)
- **U.S. Naval Nuclear Power School:** Six-month school in graduate level mathematics, physics, chemistry, electrical and nuclear engineering. (1981, Orlando, Florida)

Research Interests

- **General:** Operator Theory, Celestial Mechanics
- **Specific Problems:**
  - Joint-hyponormality of linear operators.
  - Analytic models of hyponormal operators on Hilbert space.

Education Experience

- **Franciscan University of Steubenville**: 1997-present. Associate Professor of Mathematics. Teach all levels of Mathematics. Developed the first course in Real Analysis, History of Mathematics, Euclidean and non-Euclidean Geometry, and Celestial Mechanics. Developed the first Hybrid (online and on-ground) course in the math

department. Developed first team-taught course in math department (in Baseball Statistics) along with department chair. Department Chairman from 2001-2011. Promoted to Associate Professor in 2003. Director Student Learning Assessment from 2015-2018. Director of Academic Effectiveness 2018-present.

- **Vanderbilt University**: 1992-1997. Graduate Teaching Scholar. Taught Calculus at all levels in the Engineering and non-Engineering sequence. Twice taught senior level partial differential equations course.
- **The Learning Lab:** Brentwood, Tennessee, 1992-1996. Tutored over 100 hours in Junior High through College level mathematics.
- **The Learning Center:** Vanderbilt University, 1995-1996. Weekly group tutoring sessions in Calculus.

Work Experience

- **Information Spectrum, Inc.,** Naples, Italy. 1989-1992. Worked under contract to U.S. Navy providing anti-submarine warfare analysis products. Made extensive use of mathematical models and probability theory.
- **Staff Naval Officer, Submarine Group 8,** Naples, Italy. 1986-1989. Worked on the staff of a two-star Admiral planning submarine operations and arranging diplomatic clearance for politically sensitive nuclear submarine port visits. Awarded a second Navy Achievement Medal by the Secretary of the Navy.
- **Main Propulsion Assistant, USS Nevada,** Groton, Connecticut. 1984-1986. Supervised the testing and maintenance of all propulsion plant mechanical systems of the advanced design Trident nuclear submarine reactor plant. Awarded a Navy Achievement Medal by the Secretary of the Navy. Qualified as Engineer while on board.
- **Junior Officer, USS Greenling,** Groton, Connecticut. 1982-1984. Served as Communications Officer working with top secret cryptography gear and as Reactor Controls Assistant working with electronic instrumentation systems.

Publications

- *On Hyponormal Tuples of Commuting Operators with Finite Rank Self-Commutators*. Doctoral Dissertation. UMI 1997.
- David Burton and John Coleman, "Quasi-Cauchy Sequences," *American Mathematical Monthly,* Vol. 117, No. 4, April 2010, pp. 328-333.
- David Burton and John Coleman, "Quasi-Exponential Growth and Decay" accepted by referees for publication (pending revisions) by *Mathematics Magazine*.

Memberships

- **American Mathematical Society** 1992-2009
- **Mathematical Association of America** 1997-present
    - Charter member of special interest group in the Philosophy of Mathematics 2001- present.
- **Society of Catholic Scientists** 2018-present