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ltwalt

Walt DeGrange

Education

2003–2005 **Master of Science**, *Naval Postgraduate School*, Monterey, CA.
Operations Research

1988–1992 **Bachelor of Engineering**, *Vanderbilt University*, Nashville, TN.
Electrical Engineering

Master Thesis

Title *Optimizing Global Combat Logistics Force Support for Sea Base Operations*

Advisor Dr. Mathew Carlyle

Description The Navy has to choose the number of, and designs for, ships in the Combat Logistics Force (CLF), and then plan how to use them to provide logistical support to our Naval and seabasing platforms engaged in any variety of worldwide operations. CLF ships are very expensive to build and equip and the budget is limited — this increases the pressure on buying and integrating the best CLF ships for the fleet so the Navy can continue to provide flexible support. This research used a global shortest network path algorithm combined with an innovative demand optimization model developed to analyze a mix of CLF ships with different speed and commodity capacities in support of both humanitarian and kinetic seabasing operations. Key readiness and mission effectiveness metrics were compared to determine if current CLF ships were capable of fulfilling commodity requirements or if new ships designs improved support and if so by how much.

Experience

Teaching/Research

2015-Present **Instructor**, *University of Arkansas*, Fayetteville, AR.
Teaches courses in the online Master of Science in Operations Management (MSOM) and Engineering Management (MSEM) programs.
Courses taught:
- Introduction to Operations Management (OMGT5003)
- Cost Estimation Models (OMGT5433)
- Organizing for Change (OMGT5873)
- Probability and Statistics (EMGT5703)

2015–Present **Executive Practicum Advisor**, *Supply Chain Resource Cooperative (SCRC), Poole College of Management, NC State University*, Raleigh, NC.
Mentors, coaches, and advises graduate student practicum teams taking the MBA Capstone Practicum Course required for a supply chain concentration. Assists students in developing analytical business acumen, leadership, communication, presentation, interpersonal, and critical thinking skills. Develops and maintains productive collaborative working relationships between students, faculty, and SCRC industry partners.

2011–2014 **Military Assistant Professor**, *Naval Postgraduate School*, Monterey, CA.

Developed and taught five diverse graduate level logistics courses to one hundred and forty students. Principal Investigator (PI) for a three-year, $500,000 research project (Replenishment at Sea Planner, RASP).

Courses taught:

- Introduction to Operations Analysis (OA1600)
- Introduction to Inventory Theory (OA3501)
- Joint and Combined Logistics (OA4611)
- Operational Logistics Models (OA4612)
- Operations Management (GB3042)

Practice

2018–Present **Director of Analytics Capabilities**, *CANA*, Chapel Hill, NC.

The Director of Analytics Capabilities is the steward for CANA's analytics capability. Responsible for the practice, people, and technologies that are needed to nurture a complete, best-in-class analytics capability.

2014–2018 **Principal Operations Research Analyst**, *CANA Advisors*, Chapel Hill, NC.

Led operations research analysis across federal and commercial domains including operations research studies & analysis, analysis of logistics systems, data, and information-based decision support solutions, sports analytics, and data quality & analytic assessments. Responsibilities included providing leadership over technical team members, management of research, producing analysis and resulting technical products, and the creation of an entrepreneurial atmosphere. Analytics projects covered a wide range of analytical tools and methods (R, Python, Microsoft BI & Excel, Machine Learning) and clients (professional sports teams, US Marine Corps, commercial mining

2008–2011 **Director of Operations Research and Systems Support Maritime**, *NAVSUP Weapon Systems Support*, Mechanicsburg, PA.

Performed validation and verification of all Navy and Marine Corps aviation demand forecasting and inventory levels setting models. Directed analysis in determining model parameters for development and implementation of Navy Enterprise Resource Planning (ERP) system. Managed a portfolio of over ten simulation and optimization models. Supervised 32 operations research analysts in the performance of their duties.

Analytic Tool Skills

Proficient in using:

- R
- Python
- Microsoft Excel
- LaTeX
- R Shiny

Professional Societies

Military Operations Research Society (MORS)

- Board of Directors, 2014-2018, 2023-current
- Course Director for Critical Skills for Analytics Professionals (CSAP)

INFORMS

- Military and Security Society (MAS) Treasurer and Secretary 2010-2014, 2018-2023
- SpORts Section Chairperson, 2014-2018

Awards

- 2023 MORS Vance R. Wanner Memorial Award

Publications

David Alderson, Gerald G. Brown, A Carline, Walter DeGrange, M Fleischmann, and J. Salmeron. Assessing Risk and Identifying How to Improve Resilience of the Energy Supply Chain in the Pacific Theater Bulk Fuel Transport and Prepositioning (U). Technical Report NPS-OR-14-001R, Center for Infrastructure Defense Technical Report, 2014.

Gerald G. Brown, Walter DeGrange, Robert F. Dell, and Ronald D. Fricker, Jr. Educating Military Operations Research Practitioners. pages 18–18, 2013.

Gerald G. Brown, Walter C. DeGrange, Robert F. Dell, and Ronald D. Fricker. ASP, Art And Science Of Practice: Educating Military Operations Research Practitioners. *Interfaces*, 45(2):175–186, March 2015.

Gerald G. Brown, Walter C. DeGrange, Wilson L. Price, and Anton A. Rowe. Scheduling combat logistics force replenishments at sea for the US Navy. *Naval Research Logistics (NRL)*, 64(8):677–693, December 2017.

Walter DeGrange, Gary Cokins, Stephan Chambal, and Russell Walker. Sports Analytics Taxonomy, V1.0. *ORMS Today*, 43(3), June 2016.

Walter DeGrange and Lucia Darrow. *Field Guide to Compelling Analytics*. Chapman and Hall/CRC, Boca Raton, 1st edition edition, August 2022.

Walter DeGrange and Wilson L. Price. Chapter 12: Why Won't They Use Our Model? In Natalie M. Scala and James P. Howard II, editors, *Handbook of Military and Defense Operations Research*, pages 268–280. Chapman and Hall/CRC, S.l., 1 edition edition, February 2020.

Presentations

2023 **How to Produce Compelling Analytics That Makes an Impact**, *2023 INFORMS Business Analytics Conference, Aurora, CO*.

2023 **How to Do Analytics**, *UNC-Wilmington 2023 Business Week*.

2023 **Deploying AI Solutions in a World That Doesn't Trust AI**, *Analytics>Forward, Raleigh, NC*.

2022 **Analysis + Trust + Communication + Experience = Awesome Analytics!**, *90th MORS Symposium and 2022 INFORMS Annual Meeting*.

2018-2019 **A Day in the Life of an Analytics Professional**, *UNC, NC State, UNC Wilmington, Wake Forest University*.

2017 **Sports Analytics: Viable Career Path Or Something Really Smart People Made Up To Try To Get In The Game**, *INFORMS Annual Meeting*.

2017 **Predicting Collegiate Lacrosse Play Performance At The US Major League Lacrosse Level**, *INFORMS Annual Meeting*.

2016 **Coordinated Consumable Management Cost Business Analysis**, *84th MORS Symposium*.

2015 **Combining Simulation And Optimization To Increase Insights: USMC Maritime Prepositioning Force (MPF) Exercise Simulation and OptDef**, *83th MORS Symposium*.

2012 **Why Won't You Use My Model: Difficulties In Implementing Optimal Scheduling Models**, *80th MORS Symposium*.