

BCA, INC.

BIODETERIORATION CONTROL ASSOCIATES
MICROBIAL CONTAMINATION CONTROL SERVICES

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Frederick J. Passman, Ph.D.

QUALIFICATIONS:

Strong technical background combined with exceptional leadership and management experience. Over 35 years field and laboratory research and consulting expertise in bioremediation and controlling the adverse effects of microbial growth in process fluids and industrial systems. Management and leadership skills have been honed while serving as Commanding Officer of six successive Naval Reserve Units, Laboratory Manager and Vice President of Operations for two commercial firms and Business Manager at ANGUS Chemical. STLE Certified Metalworking Fluids Specialist.

EDUCATION:

Ph.D. - University of New Hampshire - Marine Microbiology
A.B. - Indiana University, Bloomington – Microbiology

CERTIFICATIONS AND RECOGNITION:

ASTM Award of Excellence
STLE Certified Metalworking Fluid Management Specialist
Fellow, STLE
STLE Wilber Deutsch Memorial Award for the best article on a practical subject (1996 and 2011 Awardee)
STLE P. M. Ku Award for meritorious contributions and service

EMPLOYMENT:

Biodeterioration Control Associates, Inc. 5/92 - present

PRESIDENT – Marketing, expert witness and technical consulting services: bioremediation; microbial contamination control in industrial process fluids and fluid handling systems, including fuel distribution and retail, metalworking fluids and cooling water.

Associate Editor for *International Biodegradation & Biodeterioration* and for *Tribology and Lubrication Technology*. Chair: ASTM D.02.14 Working Group on Microbial Contamination in Fuels and Fuel Systems. Chair: ASTM E34.50 Health and Safety of Metalworking Fluids Subcommittee. Chair and principal instructor, STLE Metalworking Fluid Management Certificate Training Course. Vice-Chair: ASTM D.02.14 Fuel Stability and Cleanliness Subcommittee, Chair: STLE Certification Board.

Representative Clients include: ANGUS Chemical, Air Products Polymers, L. P., Arch Chemicals, Bayer Corporation; Burnet, Duckworth and Palmer; Chevron Marketing, Combe, Inc., Consolidated Freightways, Inc., Dow Chemical, ExxonMobil, FQS Group, Fuel Remediation Services, Inc., Ideas, Inc.; John W. Clark Oil Co., Kline and Co., Marathon Ashland Petroleum, LLC; Marathon Petroleum, LLC, Martin, Bacon and Martin; Milacron, Inc., National Biodiesel Board, NEW York City Transit Authority, Northwestern University, Rohm & Haas Company, Trafigura Fuels Australia Pty Ltd, Troy Chemical and Union Carbide.

ANGUS Chemical Company, Northbrook, Illinois 7/86 - 5/92
BUSINESS MANAGER, BIOCIDES - Responsible for industrial application market development and technical support.

Stewarded 1986 - 1991 biocide sales growth from \$4MM to \$12MM. Average ten technical papers and Society seminar presentations per year. Program Chairman, Eighth International Biodegradation and Biodeterioration Symposium, 1990. Member of Total Quality Management implementation team.

Charter BioLabs, Houston, Texas 11/84 - 7/86

VICE PRESIDENT, SECRETARY; OPERATIONS MANAGER - Developed laboratory and consulting services for clients in metalworking, waste stabilization and oil production industries.

Representative consulting clients included ANGUS Chemical, Continental Can Corporations, E & A Environmental Consultants, Reynolds Metals, Stroh's, and Water Science.

Frederick J. Passman, Consulting Microbiologist, Houston, Texas
5/82 - 11/84.

INDEPENDENT CONSULTANT - Provided consulting expertise on microbial problems in metalworking, petroleum production and municipal sewage sludge composting. Performed extensive application research and development on the HMB system for rapidly detecting microbial contamination in fluids. Developed two-piece aluminum can

industry as market for the HMB system; now a standard tool for monitoring microbial contamination at can plants.

Principal clients included Magnus Division of Economics Laboratories, Pillsbury Chemical Company, Rainwater Industries and KVM Engineering.

ERCO Petroleum Services subsidiary of Energy Resources Company,
Houston, Texas 1/81 - 5/82

VICE PRESIDENT, PRODUCTION SERVICES - Designed, built and staffed chemistry, microbiology, petrographics and radiotracer laboratories. Developed business plan, managed operations, directed research and performed consulting services.

Energy Resources Company, Inc., Cambridge, Massachusetts 5/77 - 1/81

MICROBIOLOGY LABORATORY MANAGER - Directed mission-oriented research for commercial and governmental clients. Successfully marketed laboratory and consulting services.

Major projects included microbial population characterization in petroleum formations, biocide evaluations for tertiary oil production applications, composting oil spill clean-up wastes, USEPA sponsored Rural Drinking Water Survey.

SENIOR MICROBIOLOGIST - Supervised field research efforts.

Principal project was Bureau of Land Management's Benchmark Study of the North Atlantic Outer Continental Shelf. Coordinated round-the-clock, at-sea, microbiological studies during quarterly cruises. SCUBA diver/scientist for Marine Fisheries Services evaluation of the biological effects of oil platform discharges in the Gulf of Mexico.

University of New Hampshire, Durham, New Hampshire 9/73 - 5/77

GRADUATE RESEARCH ASSISTANT, DEPARTMENT OF MICROBIOLOGY

Conducted field studies (SCUBA) and laboratory research of interactions between heavy metals and bacteria in marine and estuarine environments.

United States Navy 6/70 - 9/73

DAMAGE CONTROL ASSISTANT, USS McKEAN DD784 - Electrical, Repair and Auxiliary Division Officer. Responsible for ship's structural integrity, electrical systems, auxiliary machinery and damage control

readiness. Qualified as Command Duty Officer, Officer of the Deck (Fleet) and Surface Warfare Officer.

United States Naval Reserve 9/73 – 10/98

Retired as CAPTAIN, USNR after 30+ years combined active and reserve service, having commanded six successive Naval Reserve units and received four Navy Commendation Medals.

PROFESSIONAL SOCIETIES:

- American Society of Microbiology
- ASTM International
 - Chair, E.34.50 Health & Safety of Metalworking Fluids
 - Vice-chair E.34 Occupational Health & Safety
 - Founding Chair, D.02.14 Fuel Microbiology Working Group
 - Vice-chair, D.02.14 Fuel Stability & Cleanliness
 - Past, Founding Chair D.02.14 Fuel Corrosivity Task Force
- Biodeterioration Society
- International Association for Stability and Handling of Liquid Fuels
- National Association of Corrosion Engineers
- Naval Order of the United States
- Society for Industrial Microbiology
- Society for Tribology and Lubrication Engineering (Fellow)
 - Chair: Education and Certification Harmonization Executive Committee
 - Past Chair:
 - Education Course Committee
 - Education Committee
 - Metalworking Fluid Management Education Subcommittee
 - Metalworking Fluid Certification Steering Committee
 - Certification Board
- United States Naval Institute

PUBLICATIONS

Approximately forty-five published papers and technical society presentations. Bibliography available upon request.