

George H. DuBose

Building Sciences & Diagnostics

Moisture & Mold Specialist

Education and Licensing

B.S., Mechanical Engineering, Georgia Institute of Technology
Certified General Contractor – Florida - CGC1513786

Distinguishing Qualifications

- Co-author of a Monograph Series Educational Manual for NCARB (National Council of Architectural Registration Boards) on Moisture and Mold Prevention
- Co-author of three manuals on moisture-related indoor air quality (IAQ) problems and building commissioning, plus over 15 technical articles and seminars.
- Lecturer on building performance problems at the University of Florida, Clemson University, and Valencia Community College (Orlando, FL).
- Past voting member of ASHRAE's committee on building envelope performance.
- Co-inventor of a hybrid fan coil unit (patent pending) that improves occupant comfort, increases energy efficiency, and substantially decreases initial construction cost over current available equipment. Installed in over 10,000 rooms in the Central Florida area and in 400 rooms in Hawaii.
- Technical advisor to the Atlanta Committee for the 1996 Olympic Games (ACOG) to assist in the commissioning of the Olympic Village facilities.

Related Expertise

Building Diagnostics Specialty

Mr. DuBose is expert at evaluating the dynamic interrelationship of competing building systems and their effect on moisture and mold problems. He has analyzed building problems with diagnostic techniques, such as moisture mapping, tracer gas testing, fan pressurization assessment, thermographic evaluation, pressure differential testing, and real-time moisture and pollutant characterization - all unique variations of American Society of Testing and Materials (ASTM) testing protocols designed for IAQ and moisture related problems. His experience with these techniques has provided critical diagnostic analysis to determine causes of moisture and building systems problems at facilities exceeding a construction value of 1.5-billion dollars.

He has assisted professional design firms in successfully avoiding moisture, mold, and IAQ problems in structures that have included schools, judicial complexes, resort facilities, and office buildings. Predicting key design flaws and implementing steps to avoid potential problems with the building envelope and HVAC systems is Mr. DuBose's specialty.

Moisture and Microbial Expertise

Mr. DuBose has broad experience in the detection, mitigation, and control of moisture- and microbial-related building problems. He has determined the cause and severity of microbial contamination in more than 50 facilities, including a multimillion-dollar problem at the Martin County Courthouse and Constitutional Office Building. This 100,000-square-foot facility was evacuated in 1992 because of IAQ problems relating to moisture and microbial contamination.

Mr. DuBose has assisted several private and public clients in mitigating microbial contamination, including an 11-story building where water intrusion caused microbial problems requiring fast-track removal and repair to meet an imminent opening deadline. He developed a moisture and microbial avoidance manual for a major theme park and resort owner in Central Florida. This manual was written to address multimillion-dollar-per-year losses experienced by the owner. Over \$1B worth of construction has been successfully completed using this manual.

Implementing Consulting and Mitigation Services

Mr. DuBose has directed several fast-track consulting and mitigating solutions. One such project involved a high-rise facility in Orlando, Florida, which required rapid mitigation of both architectural and HVAC systems while still maintaining a fully operational facility and avoiding significant revenue loss. He has counseled clients on ancillary catastrophic IAQ problem buildings.

His experience has ranged from design and mitigation services for a Mississippi hospital patient wing and surgical suites, to a South Florida elementary school, to federal housing in South Carolina, to a five-star resort in Hawaii.

Program, Construction and Project Management Highlights

- Program development and construction management for worldwide expansion of an international telecommunications company, including the build-out of fifteen business offices and two regional offices in Europe and Asia. Future development will include roll-out of data centers and additional business offices.
- Program, consulting, and construction management of a 25-townhome complex with moisture-related building problems, including both HVAC and building envelope problems.
- Project development and project management of the renovation and upgrade of two resort properties in the Central Florida area comprised of over 2,000 rooms in multiple-lodge buildings. Upgrade included major infrastructure repairs and renovation of the building interiors. The scope of services ranged from funding approval to occupancy.
- Program development of the repairs to a 24-story hotel facility with widespread moisture-related problems, including the design and construction of repairs to both the building envelope and HVAC systems. Repairs totaled more than 55-million dollars.

- Program development of moisture-related repairs to multi-family housing complexes that required the repair or replacement of the building envelope.
- Program development and construction management of real estate for a 39-market broadband technology product, including overall programming, funding analysis, project development, site selection, real-estate acquisition, and management of design and construction.
- Program development of a multi-state 1,000+ employee move and mitigation effort for a major corporation. This project required the build-out of 50,000 square feet of office space and renovation of an existing 500,000 square foot corporate office off campus.
- Program development to increase survivability and redundancy of data centers between various metropolitan areas, relocation of a transport control center, and development of a new metropolitan area network control center.
- Project development and delivery of projects ranging from hospitality, medical, education, government, multi-family, and technology. Projects include both renovation and new construction.

Awards

- 1999 Recipient of the US Army's Commanding General's "Award of Excellence" for superior project performance of the Hale Koa Hotel's building renovation and re-activation project in Honolulu, Hawaii.
- 1995 Distinguished Award for Informational Brochures, Moisture Problems: "Why HVAC Commissioning Procedures Don't Work in Humid Climates" Society for Technical Communication (STC), Florida Technical Publications and Art Competition.
- 1994 Excellence Award for Informational Brochures, "Solving Indoor Air Quality Problems in Hot, Humid, Climates," STC International Technical Publication Competition.
- 1993 Best of Show Award and Distinguished Award Informational Brochures, "Solving Indoor Air Quality Problems in Hot, Humid Climates," STC Florida Technical Publications and Art Competition.

Partial List of Publications, Seminars, and Presentations

Manuals

- With J. David Odom. *Commissioning Buildings in Hot, Humid Climates*. Published by Fairmont Press, June 1999.
- With J. David Odom. *Preventing Indoor Air Quality Problems in Hot, Humid Climates: Problem Avoidance Guidelines*. Published in 1991; revised in 1992, 1993, and 1994.
- With J. David Odom. *Moisture and Mildew Control Guidelines for New Construction*. Developed for a Central Florida theme park and resort owner, 1991.
- With J. David Odom, Richard Scott, Norman Nelson. *Moisture and Mold Prevention*, NCARB Monograph Series Education Manual.

Seminars

- Lecturer in over 20 Lorman and PESI Seminars.
- Guest lecturer at half-day seminars conducted by the Trane Company on building problems and solutions.
- Lecturer for multiple University of Florida TREEO educational and training seminars.
- Lecturer on half- and full-day seminars on IAQ problems and building failures at Valencia Community College (Orlando, FL).
- Co-presenter at CEU-accredited seminars for AIA in South Florida.
- With J. David Odom. “Solving IAQ Problems in Hot, Humid Climates.” A one-day seminar prepared for and given in conjunction with the University of Florida TREEO Center and Clemson University.

Publications and Presentations

- With James M. Light. “Avoiding IAQ Problems in New Building, with an Emphasis on Hot, Humid Climates.” Submitted for publication in proceedings. IAQ '95: Practical Engineering for IAQ.
- IAQ Update. Tyndall Air Force Base, AFCESA. Annual Conference of MAJCOM Mechanical Engineers. November 1994.
- With J. David Odom and Philip Fairey. “Commissioning in Hot, Humid Climates: The Rules Are Different.” TAB Journal. Summer 1994.
- Dehumidification by Heat Pipes in HVAC. ASHRAE Annual Meeting. Orlando, Florida. June 1994.
- ASHRAE Regional Conference, Regional XII. Preventing Moisture Problems in Hot/Humid Climates through Proper Commissioning. Jacksonville, Florida. June 1994.
- “Forget Everything You’ve Heard About Building Commissioning Procedures – They Don’t Work in Hot, Humid Climates.” Second National Conference on Building Commissioning. St. Petersburg, Florida. May 1994.
- With J. David Odom and Philip Fairey. “Moisture Problems: Why HVAC Commissioning Procedures Don’t Work in Humid Climates.” ASHRAE Journal, December 1993.
- “Moisture Problems: Why HVAC Commissioning Procedures Don’t Work in Humid Climates.” 8th Symposium on Improved Methods of Building Design in Hot/Humid Climates. Texas A&M University, 1992.
- With J.D. Odom and N.L. Nelson. “Designing and Constructing Mildew Free Hotels.” ASHRAE Transactions. Vol. 98, Part 1. January 1992.
- Principal contributor to “Designers Wring out Moisture Problems.” Building Design & Construction, August 1992.

Supplemental

- “Moisture Control in New Construction.” Presented to the American Institute of Constructors, Orlando, Florida. 1991.
- With J. David Odom. “Design Practices Can Avoid Mildew Problems.” Suncoast Architecture/Builder, August 1991.
- “Designing, Constructing and Operating a Mildew-Free Hotel in Florida.” Presented to the Engineer’s Network of the CFMHA, 1989.

- “Mold and Mildew Problems: Cause, Cure and Prevention.” Presented to the Central Florida Building Engineers. 1989.

Membership in Professional Organizations

Past member National Institute of Building Sciences (NIBS)

Past member American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)

Past Secretary of Technical Committee for Building Envelope Systems (TC 4.9), member since 1991

Past member of Research Subcommittee for Building Commissioning (TC 9.9)