

# J. David Odom

## *Specialist in Building Forensics, Corrosion Control/Material Failures, Moisture & Mold Problems, and Green Construction*

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### **Education & Certifications**

- B.S., Earth Science, Campbell University (1971)
- Certified Corrosion Specialist (Certified in 1981), National Association of Corrosion Engineers (NACE)

### **Career Highlights**

- Managed over 500 projects for the Walt Disney Corporation dating back to 1982 that have included technical issues related to corrosion, moisture, and design & construction defect-related problems. These projects have been located in Hong Kong Disneyland, Euro-Disneyland, Castaway Cay (Disney's private Caribbean island), Disney Hawaii, and several hundred projects at Walt Disney World.
- Author of a 2007 mini-monograph for the National Council of Architectural Registration Boards (NCARB) titled, "***The Hidden Risks of Green Building Failures.***"
- Authored a 2005 NCARB 125-page continuing education monograph on moisture and mold problems that is being used for training architects nationwide.
- Co-author of three manuals on design & construction defects, moisture and mold problems, HVAC problems, and building commissioning (includes the NCARB monograph) as well as over 200 technical articles.
- Selected as "**IAQ Industry Person of the Year**" by IAQ Publications, Inc., April 1998.
- Honored in 1999 as one of the "**50 Most Influential People in Indoor Air Quality.**"
- Lecturer on improving building performance at the Univ. of Wisconsin, Univ. of Florida, Clemson University, the Florida Engineering Society, and an adjunct professor at Valencia Community College.

- Co-inventor of an air conditioning unit (Patent Serial # 09/282,657) that improves occupant comfort, increases energy efficiency, and substantially decreases initial construction cost over currently available equipment.

### **Areas of Technical Specialization**

- Building moisture intrusion problems
- Indoor air quality (IAQ) problems in commercial, institutional & residential buildings
- CPVC failure analyses and remedial repairs
- HVAC system performance failure analyses
- Building-envelope moisture intrusion failures
- Litigation support, forensic building evaluations, and expert witness services
- Corrosion and coating-related failures
- Remedial designs to correct building performance problems
- Building commissioning & design avoidance peer reviews
- Analyzing failures in green buildings and investigating innovative material deficiencies

During the past 25 years he has directed project teams providing building failure analysis services related to design, construction, and operational problems. During that time Mr. Odom has worked on projects involving over 100,000 hotel/condo rooms plus hospitals, schools, courthouses, dormitories, convention centers, sports complexes, and a variety of commercial facilities. He has completed projects throughout the U.S. and the Caribbean, as well as in the South Pacific, Europe, the Philippines, and Hong Kong.

### **Building Envelope/HVAC System Evaluations and Remedial Repairs**

Mr. Odom has conducted more than 500 investigations and studies in buildings with IAQ problems for the purpose of evaluating building envelope and/or HVAC system performance. Remediation costs for the problem buildings have ranged from several thousand dollars to over \$60 million. Remedial repairs have ranged from minor HVAC system balancing to complete HVAC and building-envelope replacement.

### **Litigation Support/Forensic Investigations/Expert Witness**

Since the mid-1980s, Mr. Odom has assisted designers, contractors, and building owners in analyzing building failures and in recovering the cost of remedial repairs. These

projects have involved over 500 hotels, 100+ public buildings, dozens of schools and Universities. Financial recovery in individual cases has exceeded \$50 million.

Mr. Odom managed a \$60 million moisture intrusion and remediation effort for Hilton Hawaiian Village in Honolulu, Hawaii. This work includes significant litigation support and cost recovery services for Hilton Corporation. Hilton recovered over \$30,000,000 from the defendants using mediation alone (without depositions). The remainder of the costs was recovered from the various insurance companies.

## **Material & Corrosion Failures**

Mr. Odom has managed more than 100 projects involving corrosion problems of building piping systems, especially condensate and boiler water systems. These problems have involved inadequate water treatment, improper material selection, and inadequate maintenance or operations. Repairs have exceeded \$5 million in individual cases.

Over the past 5 years Mr. Odom has investigated numerous buildings with CPVC piping systems that have deteriorated due to stress corrosion cracking of the materials in contact with chemical agents that attack the CPVC.

## **Building Commissioning & Problem Avoidance Peer Reviews**

Noteworthy projects that have been commissioned by Mr. Odom include the Olympic Village in Atlanta prior to the 1996 games, a \$400 million resort/casino complex in the Bahamas (Atlantis II) and Hong Kong Disneyland. Since 1990 Mr. Odom has commissioned virtually all of the new construction at Walt Disney World and for the Walt Disney Corporation worldwide.

## **Awards**

- 1999 Recipient of the U.S. Army's Commanding General's "Award of Excellence" for superior project performance on the Hale Koa Hotel's building mold renovation and HVAC redesign project in Honolulu, Hawaii
- 1997 Award of Distinction, *Communicating Effectively with Employees When Sick Building Syndrome Strikes*, Florida Public Relations Association
- 1997 Excellence Award for Informational Brochures, *The Dynamics of Occupant Outrage When Indoor Air Quality Problems Strike the Workplace*, Society for Technical Communication (STC) Florida Technical Publications and Art Competition

- 1996 Excellence Award for Organizational Manuals, *Preventing Indoor Air Quality Problems in Hot, Humid Climates: Problem Avoidance Guidelines*, STC Florida Technical Publications and Art Competition
- 1995 Distinguished Award for Informational Brochures, *Moisture Problems: Why HVAC Commissioning Procedures Don't Work in Humid Climates*, 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 Publications Competition
- 1993 Best-of-Show Award and Distinguished Award for Informational Brochures, *Solving Indoor Air Quality Problems in Hot, Humid Climates*, STC Florida Technical Publications and Art Competition

## Publications, Seminars, and Presentations

### Manuals/Books/Articles (Partial List)

- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings*" Owners Perspective. Winter, 2012
- With Richard Scott and George H. DuBose, "*Can Going Green Lead to Hidden Building Risks?*" Commercial Construction Renovation. November/December, 2010
- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings*" Construction Specifier. March, 2010
- With Richard Scott and George H. DuBose, "*The Hidden Risks of Green Buildings: why Building Problems are Likely in Hot, Humid Climates*" Construction News (Alabama). February/March, 2010
- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings*" Claims Magazine. February 2010.
- With Richard Scott and George DuBose. "*The Hidden Risks of Green Buildings, Why Building Problems are Likely,*" Construction Advisor Today, October 2009
- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings: Why Building Problems are likely in Hot, Humid Climates*" RCI-Interface. August, 2009
- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings: Why Building Problems are likely in Hot, Humid Climates*" Environmental Observer. August, 2009
- With Richard Scott and George DuBose. "*The Hidden Risks of Green Buildings, Why Moisture and Mold Problems are Likely,*" Florida Engineering Society Journal, October 2008
- With Richard Scott and George H. DuBose, "*Hidden Risks of Green Buildings*" HPAC Engineering. October, 2008

- With Richard Scott and George H. DuBose, *"The Hidden Risks of LEED®: Avoiding Moisture and Mold Problems"* Texas Architect. September/October, 2008
- With Richard Scott and George H. DuBose, *"Hidden Risks of Green Buildings"* Contracting Business Blog. September, 2008
- With Richard Scott and George H. DuBose, *"Hidden Risks of Green Buildings: Why Moisture and Mold Problems are Likely"* Design Green Construction July, 2008
- With Richard Scott and George DuBose. *"The Hidden Risks of Green Buildings, Why Moisture and Mold Problems are Likely,"* Florida Engineering Society Journal, October 2008
- With Richard Scott and George DuBose. *"The Hidden Risks of LEED, Avoiding Moisture & Mold Problems in Green Buildings,"* Texas Architect September 2008
- *"Avoidance of Mold."* Ascent (quarterly magazine of the Precast Concrete Institute/PCI), Spring 2008.
- With Richard Scott. *"The Risks of Building Green in the Southeast."* Southeast Construction, February 2008.
- With Richard Scott and George H. DuBose. *"Is Your Green Building the Best it Can Be?"* Facilities Engineering Journal, January/February 2008.
- With Richard Scott and George DuBose. *"The Hidden Risks of Green Buildings, Why Moisture and Mold Problems are Likely,"* Lorman Educational Services. January, 2008
- With Richard Scott and George DuBose. *The Hidden Risks of Green Buildings: Avoiding Moisture & Mold Problems*, NCARB continuing education mini-monograph, Direct Connection, 2007.
- With George H. DuBose, Norman Nelson, Richard Scott. *Mold & Moisture Prevention*. An AIA continuing education monograph (115 pages) for the National Council of Architectural Registration Boards (NCARB), 2005.
- Chapter contributing author to L. Harriman, G. Brundrett, R. Kittler. *Humidity Control Design Guide for Commercial and Institutional Buildings*. ASHRAE, 2001.
- With George H. DuBose, *Commissioning Buildings in Hot, Humid Climates*, Fairmont Press, June 1999.
- With George H. DuBose. *Preventing Indoor Air Quality Problems in Hot, Humid Climates: Problem Avoidance Guidelines*. 1991; revised 1992-1994 and 1996.
- With George H. DuBose. *Moisture and Mildew Control Guidelines for New Construction*. Developed for Walt Disney Imagineering. 1991.

### **Seminars & Presentations (Partial List)**

- "Hidden Risks of Green Buildings" COAA, Fall, 2010
- Gulf Coast Green Symposium, April 2008.
- GA AIA 2007 Annual Conference. Presentation on the hidden risks of building green; Savannah, GA.
- AIA 2007 Annual Conference; Orlando, FL.

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- Florida Engineering Society, 4-hour short course on moisture prevention.
  - CSI Orlando Seminar in March 2008. Presentation on reducing the risks of building green.
  - Co Presenter – “The Hidden Risks of Green Buildings: Why Building Problems are Likely and How to Avoid Them.” National Conference on Building Commissioning, 2008
  - Florida AIA 4-hour Green Building Short Courses; Tampa, Jacksonville, Miami, 2007.
  - “The High Risk of Green Construction: Why Moisture & Mold Problems Are Likely.” Presentation at Florida Annual AIA conference, July 2007.
  - “Avoiding Moisture & Mold Problems in Florida Buildings: Design & Construction Guidelines.” *Florida Engineering Society Journal*. November 2006.
  - Seminars for the Florida Engineering Society in south and central Florida on the avoidance of moisture intrusion problems in new construction. January & February 2006.
  - With Mark Mendell, Terry Brennan, et al. “Causes and Prevention of Symptom Complaints in Office Buildings: Distilling the Experience of Indoor Environmental Quality Investigators.” Sponsored by Lawrence Berkeley National Laboratory. Presented at *Indoor Air 2005* Beijing, China.
  - Lorman Educational Seminars. Conducted over 100 one-day seminars on preventing, solving, and litigating construction defects and moisture problems. Seminars were held throughout the country from 2004 thru 2009.
  - With Richard Scott. "The Escalating Risks from Moisture & Mold." *The Georgia Engineer*, December/January 2002 issue.
  - "The Escalating Risks from Moisture & Mold Problems." *The Florida/Caribbean Architect*, Winter 2001.
  - "Reducing Indoor Air Quality Complaints Through Building Commissioning." Presented at the annual conference for the Association of Energy Engineers (AEE), November 2001.
  - "Consistently Achieving High Performance Buildings." Presented at the annual conference for the National Association of State Facility Administrators (NASFA) in Lexington, KY, June 2001.
  - "Commissioning the Thermal Envelope." Presented at the National Conference on Building Commissioning in Cherry Hill, NJ, April 2001.
  - "Preventing IAQ Problems in Hot/Humid Climates." A full-day Professional Development Seminar (PDS) presented at the ASHRAE conference in Atlanta, GA, Winter 2001.

- "Walt Disney World's Approach to Minimizing Building Failures and Optimizing Building Performance." Presented at *Energy '99* Exposition Sponsored by the U.S. DOE and FEMA.
- Presenter at the *Sustainable Building Design and Operations Conference* at the Jimmy Carter Center (Atlanta, GA) sponsored by Southface Energy Institute, July 1999.
- "The Dynamics of Occupant Outrage When IAQ Problems Strike." *IEQ Strategies*, June 1999.
- "Building Commissioning as a New Project Delivery System." *Total Building Commissioning* Conference conducted by the University of Wisconsin. Courses taught: Las Vegas (Mar. '99); Madison, WI (Aug. '99); Houston, TX (Nov. '99); Las Vegas (Feb. '00); Madison, WI (Aug. '00); Las Vegas (Feb. '01); Madison, WI (April '01); and Ontario, Canada (Feb. '02)
- "Building Commissioning: What is it? How does it work? What are its Problems and Limitations?" Presented for CSI commissioning workshop, February 1999.
- "Commissioning New Construction for Energy Efficiency." *Business Energy Solutions Expo*. Orlando, FL, December 1998.
- "Risk Communication Can Prevent Occupant Outrage." *Healthy School Environment Report*, November 1998.
- "Solving IAQ Problems in Hot, Humid Climates." A one-day seminar presented in conjunction with University of Florida, Clemson University, and Florida State University.
- "Diagnosing IAQ Problems: What Works, What Doesn't Work, and Why." Presented in Key West, Florida in conjunction with the Florida Engineering Society.
- Lecturer at seminars conducted by the TRANE Company, AIA, Valencia Community College, and the Florida Hotel/Motel Association on building performance problems and their solutions.
- "Using Building Commissioning as a Tool to Prevent Improve Energy Efficiency and Reduce IAQ-Related Building Failures." *Fifth Annual National Conference on Building Commissioning*. Huntington Beach, California, May 1997.
- "Hot, Humid Climate IAQ Problems." *IAQ Publications Symposium on Hot, Humid Climates*. Tampa, Florida, January 1997.
- "Emotions in the Air: When Sick Building Syndrome Strikes." *Risk Management*, November 1996.
- "Avoiding IAQ Problems in New Buildings." *American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Symposium*. San Antonio, Texas, June 1996.

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- "Avoiding IAQ Problems in Hot/Humid Climates." *Hot/Humid Climate Symposium*. Fort Worth, Texas, May 1996.
  - "Avoiding IAQ Problems in New Buildings: In Search of the Silver Bullet." *Indoor Environment '96*. Baltimore, Maryland, April 1996.
  - "Why New Buildings Don't Work." *Indoor Environment '95*. Baltimore, Maryland, May 1995.
  - "Solving IAQ Problems in Hot/Humid Climates." *Environmental Management '95*. Tampa, Florida, April 1995.
  - "Emerging Trends in Building Science." The Florida Energy Office. Cocoa Beach, Florida, December 1994.
  - "Why Buildings Don't Work." *Florida Real Estate Journal*, December 1994.
  - "Diagnosing IAQ Problems: What Works, What Doesn't Work, and Why." Annual Conference, Florida Section of the American Industrial Hygiene Association. University of South Florida. Tampa, Florida, November 1994.
  - "Solving Indoor Air Quality Problems." *Building Standards* (bimonthly magazine of the International Conference of Building Officials), September/October 1994.
  - "Indoor Air Quality Problems in Florida: The Rules Are Different Here." *The County Reporter*: Part 3 of 3, September 1994.
  - With George DuBose and Philip Fairey. "Commissioning in Hot, Humid Climates: The Rules Are Different." *TAB Journal*, Summer 1994.
  - "Combating Indoor Air Quality Problems." *The Military Engineer*, No. 562, March/April 1994.
  - "Indoor Air Quality Problems: Preventing a Public Relations Nightmare." *The County Reporter*: Part 2 of 3, March 1994.
  - "Indoor Air Problems: Why Are Public Buildings So Susceptible to Indoor Air Quality Problems?". *The County Reporter*: Part 1 of 3, January 1994.
  - With George H. DuBose and Philip W. Fairey. "Moisture Problems: Why HVAC Commissioning Procedures Don't Work in Humid Climates." *ASHRAE Journal*, December 1993.
  - "Problems in Hot, Humid Climates." *Building Management Hawaii*, July-August 1993.
  - "Corrosion Control in Hydrogen Sulfide Environments." *Florida Water Resources Journal*, July 1993.
  - "IAQ Problems in Hot, Humid Climates." *Skylines*. Building Owners and Managers Association (BOMA), February 1993.
  - "Indoor Air Troubles Thrive in Florida's Humid Climate." *Florida Specifier*, November 1992.

- "Indoor Air Quality Problems in Hot, Humid Climates." *Society of American Military Engineers. Environmental Seminar*. Montgomery, Alabama, 1992.
- "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 G.H. DuBose and N.L. Nelson. "Designing and Constructing Mildew Free Hotels." *ASHRAE Transactions*. Vol. 98, Part 1. January 1992.
- "Moisture Control in New Construction." Presented to the *American Institute of Constructors*, June 1991.
- "Design Practices Can Avoid Mildew Problems." *Suncoast Architecture/Builder*, August 1991.
- "Mold and Mildew Related Problems in Resorts." *East-West Conference and Technology Transfer-Walt Disney World Seminar*, 1990.
- "Designing, Constructing and Operating a Mildew-Free Hotel in Florida." Presented to the Engineer's Network of the CFMHA, 1987.
- "Mold and Mildew Problems: Cause, Cure and Prevention." Presented to the Central Florida Building Engineers, 1985.

### **Membership in Professional Organizations**

- American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)
- U.S. Green Building Council
- National Association of Corrosion Engineers
- ASTM
- Construction Specifications Institute (CSI)

### **Legal Testimony for David Odom:**

- Zurich American Insurance Company, et al. v. John Heard Associates, Inc et al. 2011
- Marina Inn @ Grande Dunes v. Design Architects, et al. Deposition April 2010
- Escadote v. Ocean Three Limited Partnership et al. Miami Beach. Deposition 2009 & Jury Trial 2010
- GS Development, LLC, et al v. Pinkerton & Laws of Florida, Inc. et al, Brunswick, GA. Deposition & Arbitration Assistance 2009.
- Baronald, et al/Courtyard by Marriott, Key West. Deposition & Jury Trial 2009
- Ocean Grande Ponte Vedra Deposition & Jury Trial 2008
- Governor's Landing (Wilmington, NC) Deposition 2008
- Espirito Santo/Estoril. Multiple Depositions 2007

- South University (Savannah, SC) Deposition & Binding Arbitration 2006
- Sadala Residence Deposition 2006
- Acqualina Binding Arbitration 2006
- Livingston Builders, Inc. v. Chopin (Palm Beach County Case No. CA-02-5113) Deposition & Binding Arbitration 2005
- Heapy Engineering Deposition & Trial 2005
- Hale Koa Hotel (Hawaii) Deposition 2001
- Omni Hotel (Charleston, SC) Deposition 1992
- Embassy Suites Deposition & Binding Arbitration (Boca Raton, FL) 1991