

Robert C. Winn

PhD, PE, FAIAA, FRAeS, HonRAeS
Principal Emeritus



Dr. Winn is a mechanical/aeronautical engineer and Principal Emeritus for Engineering Systems Inc. (ESi). He has been a consulting engineer since retiring in 1991 from the U.S. Air Force following a 22-year career and has been with ESI since 1994, during which time he has analyzed hundreds of aviation accidents.

Dr. Winn was an instructor pilot in four Air Force aircraft and was Chief Scientist of the USAF European Office of Aerospace Research and Development in London, England. He spent over 15 years teaching Aeronautical and Mechanical Engineering at the USAF Academy and Colorado Technical University.

He is a Fellow of the American Institute of Aeronautics and Astronautics and an Honorary Fellow of the Royal Aeronautical Society. He has served as a member of the Society of Automotive Engineers AC-9C Subcommittee on Aircraft Icing Technology. Dr. Winn has taught, directed research, and published over 80 technical papers, reports, and articles. He has given numerous presentations on a wide variety of technical and education issues.

Education

PhD, Mechanical Engineering. Colorado State University. 1982

MS, Mechanical Engineering. University of Illinois. 1969

BS, Mechanical Engineering. University of Illinois. 1968

Licenses & Certifications

- State of Alabama PE License 28130-E
- State of Colorado PE License 16818

Positions Held

Engineering Systems Inc., Colorado Springs, Colorado

- Principal Emeritus, 2018 – Present
- Principal, Chairman of the Board & Director, Aviation, 2009–2018
- Principal & Director, Colorado Operations, 2002–2009
- Senior Consultant, 1994–2002

Contact Information

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ESi Colorado Springs

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Colorado Springs, CO 80919

Areas of Specialization

- Airplane/Helicopter Performance & Accident Reconstruction
- Aircraft Flight Path Reconstruction
- Radar Interpretation & Analysis
- Data & Flight Data/Cockpit
- Voice Recorders
- Dynamic System Analysis & Modeling
- Thermodynamics, Heat Transfer & Fluid Dynamics
- Aircraft Ice Accretion & Performance Degradation Prediction
- Aircraft Anti-Icing System Performance
- Intellectual Property Rights & Patent Infringement

Self Employed, Colorado Springs, Colorado

- Consulting Engineer, 1991–1994

Colorado Technical University, Colorado Springs, Colorado

- Adjunct Professor, 1991–2000

Department of Aeronautics, USAF Academy, Colorado

- Professor and Deputy for Operations, TG-7A Instructor Pilot, 1988–1991
- Associate Professor, 1982–1986
- Assistant Professor, T-37 and T-41 Instructor Pilot, 1976–1979

USAF European Office of Aerospace R&D, London, England

- Chief Scientist, 1986–1988

USAF 61st Tactical Airlift Squadron, Little Rock Air Force Base, Arkansas

- C-130 Aircraft Commander & Instructor Pilot, 1974–1976

USAF 14th Student Squadron, Columbus Air Force Base, Mississippi

- T-37 Instructor Pilot & Academic Instructor, 1970–1974

Professional Affiliations/Honors

Tau Beta Pi, Engineering Honor Society

- Member, 1968 – Present

American Institute of Aeronautics and Astronautics

- Fellow, 2008 – Present
- Chairman, Ethics Committee, 2025 – Present
- Director, International Activities Group, 2023 – Present
- Member, Ethics Committee, 2016 – Present
- Distinguished Lecturer, 2007 – Present
- Deputy Chief, Integration & Outreach Division, 2024–2025
- Member, Executive Nominating Committee, 2017–2023
- Recipient, Distinguished Service Award, 2017
- Member, International Strategy Working Group, 2016–2023
- Member, Council Nominating Committee, 2020–2022
- Member, Emerging Technologies Standing Committee, 2004–2019

- Chairman, Executive Nominating Committee, 2017–2018
- Member, Investment Subcommittee, 2015–2018
- Member, Finance Committee, 2009–2017
- Recipient, Energy Systems Award, 2009
- Member, Institute Development Committee, 2005–2017
- Vice President for Finance, 2011–2015
- Member, Board of Directors, 2001–2008 & 2011–2015
- Director at Large, 2005–2008
- Chairman, Emerging Technologies Standing Committee, 2004–2006
- Vice President for Technical Activities, 2001–2005
- Recipient, Sustained Service Award, 2001
- Member, New Initiatives Subcommittee, 1990–2001
- Chairman, New Initiatives Subcommittee, 1999–2001
- Deputy Director for Energy Conversion, 1990–2000
- Member, Terrestrial Energy Systems Technical Committee, 1984–2000
- Chairman, Terrestrial Energy Systems Technical Committee, 1988–1993
- Vice Chairman, Rocky Mountain Section, 1984–1985
- Secretary, Rocky Mountain Section, 1983–1984

USAF Academy

- Member, 1991 – Present
- Recipient, Daley Award to the Outstanding Member of the USAFA Dept. of Aeronautics, 1986

Royal Aeronautical Society

- Honorary Fellow, 2021 - Present
- Member, Membership Services Board, 2019–2025
- Member, Council, 2015–2020
- Member, International Strategy Working Group, 2015–2018

Federal Aviation Administration

- Member, General Aviation Joint Steering Committee, Controlled Flight into Terrain Working Group, 2017–2019

Colorado Technical University

- Member, Math, Science & Engineering Advisory Board, 1992–2017

Society of Automotive Engineers

- Member/Consultant, SAE AC-9C, Aircraft Icing Technology Subcommittee, 1995–2013
- Certificate of Achievement – Motor Vehicle Accident Reconstruction, March 2003

Queen's University Belfast

- Member, International Advisory Committee, Centre of Excellence for Integrated Aircraft Technologies, 2003–2006

Colorado Engineering Council

- Recipient, Certificate of Merit, 1986

Publications

“The Talent Solution That’s Right in Front of You,” Y.Y. Shen, A. Panetta, and **R.C. Winn**, Aerospace America, Vol. 63, No. 2, February/March 2025.

“Use of Specific Excess Power in Aviation Accident Analysis,” T.P. Jung, S.L. Morris, J.H. Slane, **R.C. Winn**, S.A. Brandt, and K.M. Greene, AIAA-2021-1337, American Institute of Aeronautics and Astronautics, SciTech Forum, January 2021.

“Unconventional Sources of Data for Accident Reconstructions,” S.L. Morris and **R.C. Winn**, American Bar Association, Aviation and Space Law, Committee News, Summer 2019.

“Smoothing CDR Radar Data,” R.M. Graue, J.E. Edwards, J.H. Slane, **R.C. Winn**, and K.B. Klosinski, ISASI Forum, July–September 2010.

“Aircraft Icing for Dummies,” **R.C. Winn**, Skywritings, DRI Aerospace Law Committee, pp. 25–29, Fall 2008.

“Using GPS-Based Data Acquisition to Evaluate Vehicle and Driver Performance,” R. Butler, **R.C. Winn**, S.L. Morris, J.H. Slane, D. Turnquist, and M. Wooddell, AIAA-2008-1146, January 2008.

“Evaluation of a General Aviation Flight Data Recorder,” J.H. Slane, R.J. Butler, J.J. Emmerling, S.L. Morris, **R.C. Winn**, and K.B. Kumley, AIAA 2007-6365, August 2007.

“The Cold Truth About Aircraft Icing,” **R.C. Winn**, Proceedings of the 41st Annual SMU Air Law Symposium, February 2007.

“Probing the Causes of Aircraft Accidents,” **R.C. Winn**, Aerospace America, Vol. 44, No. 9, pp. 00–00, September 2006.

“Aerodynamic Effects in the Milwaukee Baseball Stadium Heavy-Lift Crane Collapse,” **R.C. Winn**, J.H. Slane, and S.L. Morris, AIAA 2005-24272, January 2005.

- “Ice Shape Measurement and Comparison Techniques Workshop,” **R.C. Winn**, SAE Aerospace Resource Document, ARD5906, April 2003.
- “Assessment of the Accuracy of Flight Path Reconstruction from ATC Radar Data Using Various Smoothing and Reconstruction Techniques,” **R.C. Winn**, J.H. Slane, and S.L. Morris, AIAA 2002-0391, January 2002.
- “Analysis of the Ice Accretion on the Ejector of the Really Quiet Hush Kit for the Gulfstream II and III,” **R.C. Winn** and S.L. Morris, REALLY Quiet LLC, Report 10719C-1, December 2001.
- “Analysis and Recommendations Concerning the Malibu Meridan Nose Wheel Steering Investigation,” **R.C. Winn** and D.L. Kohlman, The New Piper Aircraft, Inc., Report 10231C-1, September 2001.
- “Ejector Ice Accretion Analysis for the QTG, Gulfstream GII/GIII Stage 3 Hushkit,” **R.C. Winn**, Quiet Technology Gulfstream, Inc., Report QTG-4005, May 2001.
- “Ice Accretion Analysis on a UAV Wing: Part 4,” **R.C. Winn** and S.L. Morris, Israel Aircraft Industries, Report 8454C-4, May 2001.
- “Ice Accretion Analysis on a UAV Wing: Part 3,” **R.C. Winn** and S.L. Morris, Israel Aircraft Industries, Report 8454C-3, March 2001.
- “Ice Accretion Analysis on a UAV Wing: Part 2,” **R.C. Winn** and S.L. Morris, Israel Aircraft Industries, Report 8454C-2, March 2001.
- “Analytical Prediction of Trajectories of Ice Pieces After Release in an Airstream,” D.L. Kohlman and **R.C. Winn**, AIAA 2001-0680, January 2001.
- “The Curvilinear Approach to Flight Path Reconstruction from Recorded Radar Data,” **R.C. Winn** and J.H. Slane, AIAA 2001-0411, January 2001.
- “Ice Accretion Analysis on a UAV Wing,” **R.C. Winn** and S.L. Morris, Israel Aircraft Industries, Report 8454C, December 2000.
- “Accurate Flight Parameter Reconstruction from ATC Radar Data: A New Approach,” J.H. Slane and **R.C. Winn**, Journal of Aerospace, Vol. 108, September 2000.
- “Smoothing ATC Radar Data,” J.H. Slane and **R.C. Winn**, ISASI Forum, Vol. 33, No. 1, pp. 00–00, January–March 2000.
- “BAC 1-11 400 Series Acoustic Ejector Ice Accretion Analysis,” **R.C. Winn**, Quiet Technology Ventures, Report QTV-3027, January 2000.
- “BAC 1-11 400 Series Extended Inlet Bullet Anti-Ice Analysis,” **R.C. Winn**, Quiet Technology Ventures, Report QTV-3026, December 1999.
- “Accurate Flight Parameter Reconstruction from ATC Radar Data: A New Approach,” J.H. Slane and **R.C. Winn**, World Aviation Congress, SAE Paper WAC99-61, October 1999.
- “Analytical Calculation of Pressure Distribution on a Residential Roof,” **R.C. Winn**, Proceedings of the 34th Intersociety Energy Conversion Engineering Conference, August 1999.

- “Optimal Wing Design for Top-Fuel Dragsters,” **R.C. Winn**, M.T. Kenner, and D.L. Kohlman, AIAA99-0464, January 1999.
- “Effects of Aircraft Speed on Critical Icing Design Conditions,” **R.C. Winn**, Burbank Aeronautical Corporation II, Engineering Systems Inc., Report 5359C-2, October 1998.
- “Induction System Icing Protection Analysis,” **R.C. Winn**, Burbank Aeronautical Corporation II, Engineering Systems Inc., Report 5359C-1, October 1998.
- “Inlet Bullet Anti-Icing Analysis,” **R.C. Winn**, Burbank Aeronautical Corporation II, Report 707-TR-263, October 1998.
- “Analysis of Stability and Performance Changes to the Falcon 50 & Falcon 900 Resulting from Ice Accretion on the Proposed Radome,” D.L. Kohlman and **R.C. Winn**, JetCorp, 13-402R001, September 1998.
- “Optimal Smoothing of Low-Frequency, Low-Resolution Data,” **R.C. Winn** and J.H. Slane, Proceedings of the 33rd Intersociety Energy Conversion Engineering Conference, August 1998.
- “Improving the Aerodynamics of Top Fuel Dragsters,” **R.C. Winn**, D.L. Kohlman, and M.T. Kenner, Proceedings of the 33rd Intersociety Energy Conversion Engineering Conference, August 1998.
- “Applying Total Quality Management to the Educational Process,” **R.C. Winn** and R.S. Green, International Journal of Engineering Education, August 1998.
- “Low-Cost Shadowgraph Technique for Flammable Vapor Visualization,” **R.C. Winn** and C.R. Morin, Proceedings of the 32nd Intersociety Energy Conversion Engineering Conference, July 1997.
- “Analysis of DC-8-61 Controllability with In-Flight Thrust Reverser Deployment,” D.L. Kohlman and **R.C. Winn**, Quiet Nacelle Corporation, Report QNC-2032, October 1996.
- “A Paradigm Shift in Solar Collectors,” D.Y. Shanefelt and **R.C. Winn**, Proceedings of the 31st Intersociety Energy Conversion Engineering Conference, August 1996.
- “Ejector Ice Shape Prediction,” **R.C. Winn** and D.L. Kohlman, Quiet Nacelle Corporation, Report QNC-2106, February 1995.
- “Inlet Ring Thermal Analysis,” **R.C. Winn** and D.L. Kohlman, Quiet Nacelle Corporation, Report QNC-2105, December 1994.
- “Ejector Pressure Profile,” **R.C. Winn** and D.L. Kohlman, Quiet Nacelle Corporation, Report QNC-2104, September 1994.
- “Analysis and Design of the Anti-Icing System for the Acoustic Ring on the DC-8 Hushkit,” **R.C. Winn** and D.L. Kohlman, Quiet Nacelle Corporation, Final Report, May 1994.
- “Global Positioning System Simulation,” C. Baer, D. Hewett, M. Stephens, W. Tully, and **R.C. Winn**, United States Air Force, Project RDA-TR-18-0306 Final Report, January 1993.
- “Total Quality Management in Curriculum Development,” **R.C. Winn** and R.S. Green, Proceedings of the 1993 AIAA Aerospace Sciences Conference, January 1993.

- “Transient Heat-Pipe Modeling: A Quasi-Steady, Incompressible Vapor Model,” W.J. Bowman and **R.C. Winn**, AIAA Journal of Thermophysics and Heat Transfer, Vol. 6, No. 3, pp. 571–574, July–September 1992.
- “Application of Optimal Control Theory to Utility Demand Management,” **R.C. Winn**, Proceedings of the 27th Intersociety Energy Conversion Engineering Conference, August 1992.
- “Application of Total Quality Management to Engineering Education,” R.S. Green and **R.C. Winn**, Proceedings of the ASEE Annual Conference, July 1992.
- “Integrating Total Quality Management into a Thermodynamics Course,” R.S. Green, **R.C. Winn**, and M.L. Smith, Proceedings of the First International Conference on Post High School Technical Education, December 1991.
- “Planned Experimentation in Aircraft Design,” **R.C. Winn**, J.M. Fernand, J.B. Hecker, and R.L. Plumley, ASEE Computers in Education Journal, Vol. 1, No. 4, pp. 00–00, October/December 1991.
- “Transient Heat-Pipe Modeling: A Quasi-Steady, Incompressible Vapor Model,” W.J. Bowman and **R.C. Winn**, Proceedings of the 26th Intersociety Energy Conversion Engineering Conference, August 1991.
- “Terrestrial Energy Systems,” **R.C. Winn**, Aerospace America, Vol. 28, No. 12, pp. 00–00, December 1990.
- “Hybrid Motor Vehicle Design Problem,” J.C. Seymour, T. Grycewicz, and **R.C. Winn**, Proceedings of the 26th Joint Propulsion Conference, June 1990.
- “Planned Experimentation in Aircraft Design,” **R.C. Winn**, J.M. Fernand, J.B. Hecker, and R.L. Plumley, Proceedings of the ASEE Annual Conference, July 1990.
- “How Much Testing Is Enough?” **R.C. Winn**, Proceedings of Frontiers in Education '90, July 1990.
- “Teaching Basic Skills in Engineering,” R.J. Stiles, M.L. Smith, J.H. Russell, and **R.C. Winn**, Proceedings of Frontiers in Education '90, July 1990.
- “Planned Experimentation in Aircraft Design,” S.R. Schmidt, **R.C. Winn**, J.M. Fernand, J.B. Hecker, R.L. Plumley, and L. Bernardi, Proceedings of the 1st National Conference on Design for Manufacturing Competitiveness in the Aerospace & Defense Industries, January 1990.
- “Terrestrial Energy Systems,” **R.C. Winn**, Aerospace America, Vol. 27, No. 12, pp. 00–00, December 1989.
- “Teaching Aeronautics with Spreadsheets,” R.J. Stiles, M.L. Smith, J.H. Russell, and **R.C. Winn**, Proceedings of the ASEE Annual Conference, July 1989.
- “CAI in Thermodynamics at the USAF Academy,” A.R. Byerley and **R.C. Winn**, Engineering Education, Vol. 76, No. 4, pp. 00–00, February 1986.
- “How to Fairly Account for an Excused Exam,” **R.C. Winn**, USAF Academy, Technical Report 85-11, September 1985.
- “Optimal Control of Auxiliary Heating of Passive Solar-Heated Buildings,” **R.C. Winn** and C.B. Winn, Journal of Solar Energy, Vol. 35, No. 5, pp. 419–427, 1985.

“New Controls of Advanced Residential Heating Systems,” **R.C. Winn**, USAF Academy, Technical Report 83-15, Fall/Winter 1982.

“Optimal Control of Solar and Off-Peak Energy Storage Installations,” C.B. Winn and **R.C. Winn**, ASME, Journal of Solar Energy Engineering, Vol. 105, pp. 50–57, February 1983.

“Optimal Control of Residential Heating and Cooling Systems,” **R.C. Winn**, Colorado State University, PhD Dissertation, 1982.

“Preferred Systems Controls for Optimizing the Performance of Solar Heating and Cooling and Heat and Cool Storage Installations,” C.B. Winn, **R.C. Winn**, C. Baer, and P. Armstrong, EPRI Project 1670-1 Summary Report, May 1982.

“Optimal Control of Passive Solar Buildings with Load Managed Storage,” C.B. Winn and **R.C. Winn**, Proceedings of the Annual Meeting of the American Section of the International Solar Energy Society, 1982.

“Optimal Control of Solar and Off-Peak Load Managed Heating and Cooling Systems,” C.B. Winn and **R.C. Winn**, Proceedings of the Annual Meeting of the American Section of the International Solar Energy Society, 1982.

“Optimal Control of Solar Energy and Off-Peak Storage Installations,” C.B. Winn and **R.C. Winn**, Proceedings of the ASME Solar Energy Conference, 1982.

“Preferred Systems Controls for Optimizing the Performance of Solar Heating and Cooling and Heat and Cool Storage Installations,” C.B. Winn, **R.C. Winn**, C. Baer, and P. Armstrong, EPRI Project 1670-1 Final Report, May 1982.

“Optimal Control of Mass Flow Rates in Flat Plate Solar Collectors,” **R.C. Winn** and C.B. Winn, ASME, Journal of Solar Energy Engineering, Vol. 103, No. 2, pp. 113–120, May 1981.

“Optimal Control of Solar Energy Collection in Solar House 11 at Colorado State University,” **R.C. Winn** and C.B. Winn, Proceedings of the Joint Automatic Control Conference, 1980.

“Implementation of an Optimal Controller of the Second Kind,” **R.C. Winn** and C.B. Winn, Proceedings of the System Simulation and Economic Analysis Conference, 1980.

“Optimization of Low-Quality Energy Conversion,” **R.C. Winn**, USAF Academy, Technical Report 79-7, Spring 1979.

“Optimization of Air-Supply Duct Systems,” W.F. Stoecker, **R.C. Winn**, and C.O. Pedersen, Proceedings of the National Bureau of Standards Conference, 1969.

“A Computer Program to Optimize the Design of Air-Supply Duct Systems,” **R.C. Winn**, University of Illinois Urbana-Champaign, MS Thesis, 1969.

Presentations

“Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Student Branch at Syracuse University, Syracuse, NY, April 2025.

- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Orange County Section, Virtual, April 2025.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Student Branch at Embry Riddle Aeronautical University, Virtual, January 2024.
- “Ethic in Engineering,” **R.C. Winn**, AIAA Orange County Section, Virtual, January 2024.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Student Branch at Clarkson University, Virtual, February 2024.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Student Branch at Ahsanullah University of Science and Technology, Virtual, December 2024.
- “Elbit Systems/Connolly Case: A Review of ESI’s Contributions,” T.P. Jung, K.M. Greene, and **R.C. Winn**, General Aviation Claims Seminar, January 2023.
- “Simulations v. Animations,” **R.C. Winn**, AIAA Long Island Section, Long Island, January 2023.
- “Aviation Accident Reconstruction,” **R.C. Winn**, International Underwriting Association Aviation Masterclasses, London, England, May 2022.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, Western Michigan University, April 2022.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Northwest Florida Section, Virtual, February 2021.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Northern Ohio Section, Virtual, April 2020.
- “Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Indiana Section, Indianapolis, IN, January 2020.
- “Dealing with Expert Witnesses: See and Avoid These Common Mistakes,” R. Gross and **R.C. Winn**, American Bar Association Tort Trial & Insurance Practice Section, Washington, DC, October 2019.
- “Accident Reconstruction Needs Data: Where to Get It and How to Use It,” **R.C. Winn**, AIAA Carolina Section, Charlotte, NC, September 2019.
- “How Virtual Reality Aids Our Understanding of Events,” C. Fox and **R.C. Winn**, Lloyds of London, London, September 2019.
- “Accident Reconstruction Needs Data: Where to Get It and How to Use It,” **R.C. Winn**, AIAA Region V Student Conference, Minneapolis, MN, April 2019.
- “The Use of Virtual Reality in Aviation Accident Analysis and Reconstruction,” C.A. Fox, J. Lucek, S.L. Morris, **R.C. Winn**, and M.T. Kenner, SMU Air Law Symposium, Dallas, TX, March 2019.
- “My Experience Solving Airplane Accident Mysteries,” **R.C. Winn**, The Museum of Flight, Seattle, WA, March 2019.
- “Aviation Accident Reconstruction Using Virtual Reality and Other New Technologies,” **R.C. Winn**, C.A. Fox, S.L. Morris, M.T. Kenner, and J. Lucek, DRI 2019 Product Liability Seminar, Austin, TX, February 2019.
- “The Use of Virtual Reality Technology in Aviation Accident Reconstruction,” **R.C. Winn** and C. Fox, DRI 2019 Product Liability Seminar, Austin, TX, February 2019.

“The Use of Virtual Reality Technology in Aviation Accident Reconstruction,” **R.C. Winn**, AIAA Pacific Northwest Region, November 10, 2018.

“New Tools in Aviation Accident Reconstruction,” **R.C. Winn**, AIAA Pacific Northwest Region, November 10, 2018.

“The Use of Virtual Reality in Accident Reconstruction,” T.P. Jung, S.L. Morris, and **R.C. Winn**, ATS-2018 AIAA Rocky Mountain Section Annual Technical Symposium, October 2018.

“New Methods for Simulating, Animating, and Presenting Aviation Accident Reconstructions,” **R.C. Winn**, Aircraft Builders Council Annual Conference, San Francisco, CA, September 18, 2017.

“Animations v. Simulations,” **R.C. Winn**, Royal Aeronautical Society, London, England, June 20, 2017.

“How Expert Witnesses Can and Do Influence the Outcome,” **R.C. Winn**, Xchanging Seminar Series, London, England, November 2, 2016.

“Anatomy of an In-Flight Breakup,” **R.C. Winn**, University of Alabama Bradt Lecture Series, Tuscaloosa, AL, August 31, 2016.

“The Miller Park Crane Collapse,” **R.C. Winn**, AIAA Huntsville Section, Huntsville, AL, February 25, 2016.

“Anatomy of an In-Flight Breakup,” **R.C. Winn**, AIAA Atlanta Section, Atlanta, GA, September 24, 2015.

“New Tools in Aircraft Accident Reconstruction,” **R.C. Winn**, AIAA Albuquerque Section, Albuquerque, NM, May 21, 2015.

“Animations v. Simulations,” **R.C. Winn**, Tau Beta Pi Ohio Eta Chapter, Dayton, OH, December 5, 2014.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Tucson Section, Tucson, AZ, December 5, 2013.

“Trajectory Analysis of Free-Floating Objects: A Drift Prediction Model,” K.M. Smith, J.H. Slane, and **R.C. Winn**, SNAME Annual Meeting, Bellevue, WA, November 2013.

“Trial of Lidle v. Cirrus Design Corporation: Liability and Damages Defense,” P. Bradley, S. Ellis, B. King, and **R.C. Winn**, DRI Product Liability Conference, National Harbor, MD, April 3, 2013.

“New Techniques in Aircraft Accident Reconstruction,” **R.C. Winn**, GBF Aviation Law Afternoon Workshop, Zurich, Switzerland, March 6, 2013.

“New and Advanced Techniques in Aircraft Accident Reconstruction,” **R.C. Winn**, AIAA Rocky Mountain Section Technical Symposium, Denver, CO, October 26, 2012.

“New and Advanced Techniques for Aircraft Accident Reconstruction,” **R.C. Winn**, Royal Aeronautical Society, London, England, October 22, 2012.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Rocky Mountain Section, Denver, CO, May 2, 2012.

“Aircraft Accident Reconstruction: Science Fair Projects for Fun and Profit,” **R.C. Winn**, USAF Academy/Department of Aeronautics Dining Out, October 14, 2011.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA-USAFA Science, Technology, Engineering & Mathematics Workshop, Colorado Springs, CO, June 22, 2011.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Long Island Section, Farmingdale, NY, May 26, 2011.

“Mistakes and Deception in Aircraft Accident Reconstruction: Anatomy of an In-Flight Breakup,” **R.C. Winn**, ASM International Atlanta Chapter, Atlanta, GA, November 16, 2010.

“Aircraft Accident Reconstruction Using Aero 315,” **R.C. Winn**, USAF Academy Department of Aeronautics, Colorado Springs, CO, October 2010.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA-USAFA Science, Technology, Engineering & Mathematics Workshop, Colorado Springs, CO, July 15 & 20, 2010.

“Metallurgy and Mechanical in Product Liability,” D.A. Turnquist and **R.C. Winn**, Colorado Defense Lawyers Association Continuing Legal Education Seminar, Denver, CO, April 7, 2010.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Indiana Section, Indianapolis, IN, May 7, 2009.

“How to Properly Prepare for and Conduct a Wreckage Inspection,” **R.C. Winn**, Aviation Insurance Association Annual Meeting, San Francisco, CA, April 28, 2009.

“The State of the Art in Accident Reconstruction,” **R.C. Winn** and R.J. Butler, Association of Defense Trial Attorneys Annual Meeting, Scottsdale, AZ, April 17, 2009.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Southwest Texas Section, San Antonio, TX, December 11, 2008.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Orange County Section, Santa Ana, CA, April 16, 2008.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Phoenix Section, Scottsdale, AZ, April 17, 2008.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA New Orleans Section, Slidell, LA, December 18, 2007.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Atlanta Section, Marietta, GA, November 27, 2007.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA University of Colorado Colorado Springs Student Chapter, Colorado Springs, CO, October 25, 2007.

“Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, AIAA Albuquerque Section, Albuquerque, NM, September 27, 2007.

“Cost-Effective Demonstrative Exhibits: The ESI Approach,” **R.C. Winn**, American Bar Association Aviation Litigation CLE Seminar, New York, NY, June 2007.

- “Mistakes and Deceptions in Aircraft Accident Reconstruction,” **R.C. Winn**, AIAA Western Region Leadership Meeting, El Segundo, CA, September 16, 2006.
- “Accident Reconstruction: Simulation versus Animation,” **R.C. Winn** and D.A. Turnquist, Rocky Mountain Association of Special Investigation Units, Aurora, CO, August 15, 2006.
- “Mistakes and Deceptions in Aircraft Accident Reconstructions,” **R.C. Winn**, Aviation Insurance Institute Annual Meeting, Dallas, TX, April 2006.
- “Compensating for the Lag in Flammable Vapor Concentration Meters,” **R.C. Winn** and S.L. Morris, International Energy Conversion Engineering Conference, Portsmouth, VA, August 2003.
- “Analytical Prediction of the Trajectories of Tumbling Objects,” **R.C. Winn**, SAE AC-9C Conference on Aircraft Icing, Albuquerque, NM, October 2002.
- “Miller Park Crane Collapse: Root Cause Investigation,” C.R. Morin, D.A. Wojnowski, **R.C. Winn**, J.A. Wilkinson, M.T. Kenner, S.J. Smith, and A.V. Kenner, University of Illinois Urbana-Champaign Department of Civil and Environmental Engineering, Champaign, IL, March 2001.
- “Using Radar Data in Aircraft Accident Reconstruction,” **R.C. Winn**, USAF Academy Aircraft Mishap Investigation, October 1999.
- “Accurate Flight Parameter Reconstruction from Smoothed ATC Radar Data,” J.H. Slane and **R.C. Winn**, International Society of Air Safety Investigators Conference, Boston, MA, August 1999.
- “Computer Simulation of Aircraft and Automobile Behavior Upon Water Impact,” **R.C. Winn** and D.L. Kohlman, AIAA Aerospace Sciences Meeting, Reno, NV, January 1998.
- “Quality Systems,” **R.C. Winn**, Colorado Springs Police Department, Colorado Springs, CO, January 1998.
- “Aircraft Accident Investigation,” **R.C. Winn**, AIAA Dayton/Cincinnati Section, Dayton, OH, January 1997.
- “Using Radar Data in Aircraft Accident Reconstruction,” **R.C. Winn**, USAF Academy Aircraft Mishap Investigation, August 1995.
- “Using LEWICE as a Design Tool,” **R.C. Winn** and D.L. Kohlman, NASA Lewis LEWICE Workshop, Cleveland, OH, June 1995.
- “Using LEWICE in the Design of an Add-On Hot Air Anti-Icing System,” **R.C. Winn**, D.L. Kohlman, and R.T. Marshall, SAE Subcommittee AC-9C Aircraft Icing Technology Meeting No. 22, Seattle, WA, April 1995.
- “Total Quality Management at the University,” **R.C. Winn**, Black Hills State University & South Dakota School of Mines and Technology Faculty Presentation, Rapid City, SD, April 1993.
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