



SUMMARY CV:  
JASON A. RONEY  
WIND CONSULTANT AND ENVIRONMENTAL TRANSPORT EXPERT  
ROCKY MOUNTAIN WIND AND ENVIRONMENTAL CONSULTING

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Educational Background

Ph.D., Mechanical and Aeronautical Engineering, University of California at Davis, 2001  
M.S., Mechanical Engineering, Arizona State University, 1997  
B.S., Mechanical Engineering, University of Colorado at Boulder, 1994

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Professional Experience

Dr. Jason Roney is a Wind Consultant and Environmental Transport expert. His current research and consulting interests are in the areas of atmospheric modeling for air quality, wind and renewable energy, near-space atmospheric modeling and observations, fugitive dust modeling, environmental fluid dynamics, the atmospheric boundary layer, aerosols, two-phase flows, and boundary layer flows.

At ITT Corporation Dr. Roney has worked on complex transport and dispersions modeling problems in urban and rural environments for DARPA, ECBC, and DTRA. This modeling has included analysis with atmospheric-tuned CFD models, with wind models based on atmospheric parameterization, with NWP models, and with Lagrangian tracer transport and dispersion models that include complex interactions of gases and aerosols accounting for agglomeration, evaporation, turbulent deposition, settling, and chemical reactions. Dr. Roney has developed various parts of the models used at ITT.

Dr. Roney has also consulted as an expert witness by providing fugitive dust modeling analysis. His Ph.D. research on fugitive dust modeling has continued throughout his career, and he has published three peer-reviewed journal papers on this topic.

Prior to working at ITT, Dr. Roney was a professor at the University of Colorado at Colorado Springs (UCCS). Dr. Roney's research topics included the use of a hybrid model approach in which the NWP EDAS weather model was used to initialize the CALMET wind model to provide wind energy resource estimation. Another project used the CALMET predicted values for initializing CFD for wind energy micro-siting in complex terrain. Dr. Roney supervised three Master's students in wind energy related theses and project topics. In addition, Dr. Roney investigated the use of NWP EDAS initialized CALMET/CALPUFF transport and dispersion models for predicting visibility near national parks and for risk scenarios for accidental nuclear power plant releases. As UCCS NASA Space Grant Affiliate, Dr. Roney directed students in a series of high altitude weather balloon experiments to measure wind gusts, temperatures, humidity, and pressure in the upper atmosphere. As a Space and Near Space Research Group (SANS-RG) member Dr. Roney worked on statistical weather models for sites proposed for stationary high altitude airships—these models were used to estimate the ability of the airship to maintain station-keeping persistence.

Prior to joining the Mechanical and Aerospace Engineering Department, Dr. Roney worked in the Atmospheric Modeling group at Sonoma Technology, Inc. (STI), a company with expertise in meteorological and air quality measurements, modeling, and data analysis work. Dr. Roney's Ph.D. research included developing methods for assessing fugitive dust emissions based on such variables as surface wind shear stress, soil type, surface type, and moisture content. This research involved numerous wind tunnel measurements with aerosol monitors as well as the numerical modeling of the fugitive dust entrainment. In addition, Dr. Roney has also performed physical modeling and wind tunnel measurements in the Atmospheric Boundary Layer Wind Tunnel (ABLWT) at the University of California at Davis, a facility used to assess atmospheric pollutant dispersion, wind energy, and pedestrian-level wind impact.

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### Memberships and Awards

Air and Waste Management Association, American Geophysical Union, American Meteorological Society, American Society of Mechanical Engineers, American Institute of Aeronautics and Astronautics, Society of Hispanic Professional Engineers, Tau Beta Pi Engineering Honor Society, GEM Fellowship (1995-1996), Ford Foundation Predoctoral Fellowship Honorable Mention (1997)