

# **Steven K. Krueger**

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Prof. Steven K. Krueger received a B.A. in Physics from Pomona College in Claremont, California, in 1975. He received M.S. and Ph.D. degrees in 1977 and 1985, respectively, from the Dept. of Atmospheric Sciences, UCLA, under Prof. Akio Arakawa. From 1985 until 1988 he held a research position in the Dept. of Atmospheric Sciences, UCLA. From 1988 to 1995 he was an Assistant Professor, from 1995 to 2003, an Associate Professor, and since 2003, a Professor, in the Dept. of Meteorology at the University of Utah. He served as Acting Chair of the Dept. of Meteorology, University of Utah, from January 1998 to March 1999, and is currently serving as Associate Chair.

Research interests include numerically simulating cloud systems, with particular emphases on the interactions between large-scale, mesoscale, and cloud-scale processes, as well as between turbulence, mixing, and microphysics in clouds. Research interests also include numerical simulation of atmospheric boundary layers, with foci on cloud-topped boundary layers and on wildfire spread and behavior. Prof. Krueger's research group has developed and uses several different numerical models, including cloud-resolving models, large-eddy simulation models, and one-dimensional turbulence models. These models include the UU LES (University of Utah Large-Eddy Simulation model), the UU-UCLA CRM (University of Utah-UCLA Cloud Resolving Model), the EMPM (Explicit Mixing Parcel Model), Clus-Coll (Droplet Clustering and Collision model), SAM (System for Atmospheric Modeling), and WRF-SFIRE (Weather Research and Forecasting model, with coupled wildfire spread physics).

Prof. Krueger was Chair of GCSS (GEWEX [Global Energy and Water Cycle Experiment] Cloud System Study) from 2001 through 2003. He organized the GCSS-ARM Workshop on the Representation of Cloud Systems in Large-Scale Models which was held 20-24 May 2002 at Kananaskis, Alberta, Canada. He served as chair of GCSS WG 4 (Precipitating Convective Cloud Systems). He was the UCAR Members' Representative from 1998 to 2012. He served as an Associate Editor for *Journal of Advances in Modeling Earth Systems* (JAMES) from Jan 2012 to Jan 2016. He was Director for Knowledge Transfer for the Center for Multiscale Modeling of Atmospheric Processes (a NSF Science and Technology Center at Colorado State University) from July 2011 to June 2016.

Prof. Krueger has served on many M.S. and Ph.D. supervisory committees.

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Degree and year	Ph.D. 1998
Dissertation title	Numerical Modeling of Altocumulus Cloud Layers <sup>+</sup>
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Thesis title	Radiative Fluxes and Heating Rates during TOGA COARE over the Intensive Flux Array <sup>+</sup>
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Dissertation title	Modeling the Effects of Boundary Layer Circulations Generated by Cumulus Convection and Leads on Large-Scale Surface Fluxes <sup>+</sup>
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Dissertation title	Improving the Representation of Turbulence and Clouds in Cloud Resolving Models and General Circulation Models
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Thesis title	The Entrainment Interface Layer of Stratocumulus Topped Boundary Layers during the Physics of Stratocumulus Top Field Campaign
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Thesis title	Frontal Passages and Cold Pools using Oklahoma Mesonet Observations
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Dissertation title	Impacts of Varying Model Physics on Simulated Structures in Cloud Systems
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Thesis title	Characteristics of Clouds and the Near Cloud Environment in a Simulation of Tropical Convection
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Dissertation title	Connections Matter: Updraft Merging in Organized Tropical Deep Convection
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