

Tuesday 8 July

8:00-10:00

Plenary Oral Session 3: CONVECTIVE CLOUDS

Chairperson: Andrea Flossmann

- 8:00-8:15 3.1 **Invited: Mary C. Barth, Christelle Barthe, William Skamarock, Morris Weisman**  
Effect of Deep Convection on Chemical Species Transport, Sources, and Scavenging in the Central US
- 8:15-8:30 3.2 **Katrin Lehmann, Holger Siebert, Raymond A. Shaw**  
Observations of Homogeneous and Inhomogeneous Mixing in Warm Cumulus Clouds
- 8:30-8:45 3.3 **John H. Marsham, Keith A. Browning, Alan M. Blyth, Doug J. Parker, Peter J. Clark, Humphrey W. Lean**  
The initiation of deep convection from boundary-layer rolls observed during CSIP
- 8:45-9:00 3.4 **Wiebke Deierling, John Latham, Walter A. Petersen, Scott Ellis, Hugh. Christian**  
Field determination of the masses and mass fluxes of ice and liquid water in thunderclouds, from lightning measurements
- 9:00-9:15 3.5 **Clelia Caracciolo, Franco Prodi, Leo Pio D'Adderio, Eckhard Lanzinger**  
Precipitation type and rainfall intensity from the Pludix disdrometer
- 9:15-9:30 3.6 **Anders Engström, Annica M. Ekman, Radovan Krejci, Johan Ström, Marian. de Reus, Chien Wang**  
Observational and Modelling Evidence of Tropical Deep Convective Clouds as a Source of Mid-Tropospheric Accumulation Mode Aerosols
- 9:30-9:45 3.7 **Minakshi Devi, Ananda K. Barbara, Manoj Saikia**  
Precipitation and cloud feature retrieved at subtropical environment by portable Lidar
- 9:45-10:00 3.8 **Vincenzo Levizzani, Francesca Pinelli, Roberto Ginnetti, Samantha Melani, Massimiliano. Pasqui, Arlene Laing, R. E. Carbone**  
Variability of warm season convective clouds over Europe and the Mediterranean

10:00-10:30

Coffee Break

10:30-12:15

Plenary Oral Session 3: CONVECTIVE CLOUDS (continued)

Chairperson: Andrea Flossmann

- 10:30-10:45 3.9 **Irina Sandu, Jean-Louis Brenguier, Olivier Geoffroy, Odile Thouron, Valery. Masson**  
Sensitivity of the marine Stratocumulus Diurnal Cycle to the Aerosol Loading
- 10:45-11:00 3.10 **Wei-Chun Hsieh, Athanasios Nenes, Hafliði Jonsson, Richard C. Flagan, John. Seinfeld**  
On the Representation of Droplet Coalescence and Autoconversion for Realistic Cloud Size Distributions
- 11:00-11:15 3.11 **Zbigniew P. Piotrowski, Szymon P. Malinowski, Piotr K. Smolarkiewicz**  
On Numerical Realizability of Thermal Convection
- 11:15-11:30 3.12 **Axel Seifert, Michael Baldauf, Klaus Stephan, Ulrich Blahak, Klaus. Beheng**  
The challenge of convective-scale quantitative precipitation forecasting
- 11:30-11:45 3.13 **Paola V. Salio, Luciano Vidal, Edward Zipser, Chuntao Liuct**  
Convective systems structure over Southeastern South America using TRMM observations
- 11:45-12:00 3.14 **Simon Caine, Steven Siems, Christian Jakob, Peter May**  
Objective Classification of Precipitating Convective Regimes Using a Weather Radar in Darwin (Australia)
- 12:00-12:15 3.15 **Sonia Lasher-Trapp, William A. Cooper, Alan M. Blyth**  
Entrainment and Mixing Effects on Droplet Coalescence in a Simulated Cumulus Cloud

- P3.1 **Alessandra S. Lanotte, Agnese Seminara, Federico Toschi**  
Broadening of cloud droplets condensational spectrum by turbulence
- P3.2 **Andrew Russell, Geraint Vaughan**  
Convective intensification induced by a descending dry layer: a case study of CSIP IOP 9
- P3.3 **Andrew Russell, Geraint Vaughan**  
Convective inhibition beneath an upper-level PV anomaly
- P3.4 **Andrew Russell, Geraint Vaughan**  
An examination of capping inversions during COPS
- P3.5 **Bai Kawa, Wang Jia, Wang K. Fa, Zong P. Cheng**  
Analysis on the 2004 Jiangsu temperature decrease by rocket artificial enhance precipitation
- P3.6 **Baojun Chen**  
Numerical Simulation of Hail Formation and Growth in a Storm with Low Supercooled Rain Water Content and the Effect of AgI Seeding on Hail Suppression
- P3.7 **Barbi Adriano, Gabriele Formentini, Marco Monai**  
The 26th September 2007 Venice extreme convective rainfall event
- P3.8 **Boryana Tsenova, Staytcho Kolev**  
Climatical study of the relationships between thunderstorms lightning activity and the environmental conditions over western Bulgaria
- P3.9 **Carlos Alberto Perez Sanchez, Daniel Martinez Castro, Victor V. Petrov, Boris P. Koloskov, Felix Gamboa**  
An exploratory analysis of the potential for rainfall enhancement in the randomized convectivecold cloud seeding experiment in extended areas in Cuba (EXPAREX)
- P3.10 **Changhai Liu, Xianfang Ma, Roy Rasmussen, Xiaodong Liu, Kyoko Ikeda, Ulrich Blahak**  
A Cloud-Resolving Modeling Study of Aerosol Impacts on Convective Cloud Systems
- P3.11 **Chiel C. van Heerwaarden, Jordi Vila-Guerau de Arellano<sup>2</sup>**  
Potential cloud formation over heterogeneous land surfaces
- P3.12 **Christelle Barthe, Mary Barth**  
Evaluation of the uncertainties associated to an improved lightning-produced NO<sub>x</sub> parameterization in a cloud-resolving model
- P3.13 **Danhong Fu, Xueliang Guo, Changhai Liu**  
Rainfall Processes and Cloud Microphysics of Monsoon Convective System over the South China Sea
- P3.14 **Daniel P. Grosvenor, Thomas W. Choullarton**  
The effect of overshooting deep convection on the water content of the TTL and lower stratosphere from Cloud Resolving Model simulations.
- P3.15 **Daniel Tang, Steven Dobbie**  
A novel approach to the parameterisation of moist convection.
- P3.16 **Dorota Jarecka, Wojciech W. Grabowski, Hanna Pawlowska**  
Modeling of subgrid-scale mixing in large-eddy simulation of shallow convection
- P3.17 **Elena Kortchagina, Alexander Shapovalov**  
Research on interaction of microphysical and electric processes in cumulus clouds: numeric simulation.
- P3.18 **Elena N. Stankova**  
On the Role of the Algorithm of Convective Cloud Lower Boundary Determination for Dangerous Convective Event Forecast and Numerical Simulation of Convective Clouds

- P3.19 **Ganna Pirnach, Vitalii Shpyg**  
Numerical study of convective supercell events observed in Crimea
- P3.20 **Graciela B. Raga, Darrel Baumgardner**  
Precipitation from tropical clouds sampled during EPIC2001
- P3.21 **Grant Allen, Peter May, Geraint Vauhan, Dominik Brunner, William Heyes**  
Observations of a deep tropopause fold over Darwin during the ACTIVE aircraft campaign– Implications for tropical convection
- P3.22 **Guillaume Penide, Vincent Giraud, Christophe Duroure, Alain Protat**  
Numerical Simulation of the Dynamics, Cloud Microphysics and radiative forcing of an anvil-cirrus cloud observed during AMMA
- P3.23 **Guoqing Zhang**  
Diurnal changes and formation mechanism of summer orographic cloud on the southern slope of Qilian Mountains
- P3.24 **Heike Noppel, Alexander Khain, Andrei Pokrowsky, Ulrich Blahak, Klaus Beheng**  
How well can a bulk scheme reproduce the microphysical processes within a convective storm? - Comparison to a spectral bin model
- P3.25 **Haojuan Huang, Ming Wei**  
The Mechanism and Echo Analysis of the Hail Storm Moving and Evolution on Yachi River in Guizhou Province
- P3.26 **Hua-Ying Yu, Sheng-Jie Niu, Ming-Zhu Liang, Ming Wei, Song-Shan Gu**  
Comparison of the Cloud Water Content Retrieved by Radar and from Numerical
- P3.27 **Hugh Morrison, George Bryan, Greg Thompson**  
Impact of cloud microphysics on the development of trailing stratiform precipitation in squall lines
- P3.28 **Ji F. Wen, Ning Luo, Hao J. Huang, Yi Xu**  
Numerical study of convective cloud by rain enhancement
- P3.29 **Jiapeng Li, Yan Yin**  
Sensitivity Experiment of Simulations of Tropical Deep Convection to the PBL Parameterizations
- P3.30 **Jiming Sun, Parisa A. Ariya, Henry G. Leighton, M.K. P. Yau**  
The mystery of ice multiplication process in warm-based cumulus clouds: Importance of bioaerosols as a trigger
- P3.31 **Jiming Sun, Parisa A. Ariya, Henry G. Leighton, M.K. P. Yau**  
A new perspective on the broadening mechanism of cloud droplet spectra in cumulus clouds
- P3.32 **Joanna Slawinska, Wojciech W. Grabowski, Hugh Morrison**  
Indirect impact of atmospheric aerosols on deep organized convection: results from a prescribed-flow model with a two-moment bulk microphysics scheme
- P3.33 **Joël Arnault, Frank Roux**  
Evolution of AEWs and MCSs off West Africa observed during AMMA SOP-3 in September 2006
- P3.34 **Joerg Trentmann, Axel Seifert, Heini Wernli**  
Convective Cloud Microphysics in a high-resolution NWP model
- P3.35 **Joerg Trentmann, Peter Knippertz, Axel Seifert**  
Density Currents in the Sahara – Sensitivity to evaporation of raindrops
- P3.36 **Jorge L. Gomes, Sin C. Chou**  
Convective and stratiform precipitation partition dependence on horizontal resolution
- P3.37 **Justin R. Peter, Peter T. May, Roelof T. Brientjes, Daniel W. Breed, Michael Manton**  
Radar observations of the initiation of precipitation in seeded and non-seeded warm continental cumulus clouds
- P3.38 **Kazuaki Yasunaga, Akihiro Hashimoto, Masanori Yoshizaki**  
Numerical simulations of the formation of melting-layer cloud

- P3.39 **Koloskov Boris, Strunin Mikhail, Petrov Victor, Castro Daniel, Perez Carlos**  
Fine dynamic structure of cumulus clouds based on the complex aircraft experiment over Cuba in 2006 - 2007
- P3.40 **Kyoko Ikeda, Changhai Liu, Lulin Xue, Roy M. Rasmussen**  
Investigation of the Dependence of Squall Line Structure and Dynamics on Microphysical Parameterization
- P3.41 **Lin Y. Li**  
Summer convective cloud precipitation resources analysis
- P3.42 **Liu G. Hua, Yu Xing, Dai Jin, Daniel Rosenfeld**  
Satellite retrieval of microphysical processes for a hail
- P3.43 **Luiz A. Machado, Rafael C. Martins**  
Convective Clouds Characteristics in the Southwestern Amazonia during wet and the pre-wet season.
- P3.44 **Marcela M. Torres Brizuela, Matilde Nicolini**  
On the genesis and evolution of a Bow-echo structure over northeastern Argentina
- P3.45 **Maria Eugenia B. Frediani, Carlos A. Morales**  
Description of the cloud hydrometeors observed in the Amazon region during the wet and dry seasons.
- P3.46 **Mariko Oue, Hiroshi Uyeda, Yukari Shusse**  
Characteristics of precipitation physics in the convective cells in a humid environment
- P3.47 **Mark Pinsky, Nir Benmoshe, Alexander Khain**  
Large scale turbulent intermittency in convective and stratiform clouds
- P3.48 **Matilde Nicolini, Yanina García Skabar**  
Convection genesis and mesoscale circulations over Argentina during summer
- P3.49 **Mladjen Curic, Dejan Janc, Vladan Vuckovic, Nemanja Kovacevic**  
The sensitivity of microphysics and dynamics of simulated convective storm due to the altered cloud drop size distribution
- P3.50 **Nianchong Jiang, Juan Liu, Wen Hu, Hai Lu, Zizhong Song**  
Radar Echo Characteristics of Summer Meso- $\gamma$  Scale Convective Clouds in Anhui, China
- P3.51 **Nir Benmoshe, Mark Pinsky, Alexander Khain**  
Does turbulence control the rain formation in convective clouds?
- P3.52 **Odile Thouron, J-L Brenguier, Frederic Burnet, Irina Sandu**  
Parameterization of mixing in boundary layer clouds
- P3.53 **Paul A. Kucera, Andrew J. Newman, John C. Gerlach**  
Evaluation of Precipitation Characteristics Observed in Panama during TC4
- P3.54 **Paul Schultz, Isidora Jankov**  
Experiments on the sensitivity of 1-hour QPF to initialization of deep convection
- P3.55 **Paul T. Willis, Andrew J. Heymsfield, Aaron Bansemer, Brian Pilson**  
The microphysics near the freezing level in an oceanic convective complex
- P3.56 **Paulo R. Bastos, Sin C. Chou**  
Evaluation of Eta Model forecasts with parameterized convective momentum fluxes for a rainy season in Southeast Brazil
- P3.57 **Philip R. Brown, Richard Cotton, Richard Forbes, Yahui Huang, Alan Blyth, Paul Connolly**  
Ice and Precipitation Development in UK Summertime Cumulus: Observations and High-Resolution NWP Studies.
- P3.58 **Pradeep K. Pallath, Baban P. Nagare**  
Cloud Top Temperatures, rainfall and lightning during active and break monsoon period over a selected Indian region.
- P3.59 **Rafael C. Martins, Luiz Augusto T. Machado**

- Characterization of microphysics of the precipitation in Amazon region using radar and disdrometer data
- P3.60 **Renmao Tang, Jianyuan Ye, Yuchun Xiang, Yanjiao Xiao, Jian I. Liu, Zhengteng Yuan, Yingying Chen**  
A Preliminary Study on the Techniques of Convective Clouds Rainfall Enhancement Seeding Effect Test
- P3.61 **Romanov Nickolay**  
Comparison of Computational and Experimental Laws of Cloud Microstructure Formation
- P2.62 **Ruiyu Sun, Steven K. Krueger**  
Mesoanalysis of the Interactions of Precipitating Convection and the Boundary Layer
- P3.63 **Tanja Weusthoff, Thomas Hauf**  
Universal functions for post-frontal showers - geometrical characteristics and rain rate development
- P3.64 **Tomoki Ushiyama, K K. Reddy, Hisayuki Kubota, Kazuaki Yasunaga, Ryuichi Shiroyaka**  
DSD Variability in Palau in the Western Tropical Pacific
- P3.65 **Tuanjie Hou, Heng C. Lei**  
A modeling study of the relationship between electrification and microphysics in a typical thunderstorm
- P3.66 **Ulrich C. Blahak**  
Idealized Numerical Sensitivity Studies on Shallow-Convection-Triggered Storms
- P3.67 **Vaughan T. Phillips, Constantin T. Andronache**  
Aerosol Effects on Cloud Properties in a Deep Convective Ensemble
- P3.68 **Vlado P. Spiridonov, Sampan Thaikruawan, Mladjen Curic**  
The use of cloud-scale model in quantitative heavy rainfall forecast on tropical storm
- P3.69 **Wagner F. Lima, Luiz A. Machado**  
Characteristics of Cloud top features using multispectral satellite data.
- P3.70 **Winfried Straub, Jan Schlottke, Klaus D. Beheng, Bernhard Weigand**  
Numerical Investigation of Collision-Induced Breakup of Raindrops. Part II: Parameterizations of Fragment Size Distributions and Coalescence Efficiencies
- P3.71 **Xiao-Li Liu, Sheng-Jie Niu**  
Numerical Simulation of the Evolution of Particles in a Convective Cloud Using Bin Spectral Microphysics
- P3.72 **Xiaoqing Wu, Sunwook Park**  
Year-long Cloud-Resolving Model Simulations of Midlatitude Cloud Systems
- P3.73 **Xiaowen Li, Wei-Kuo Tao, Alexander Khain, David Atlas**  
Rain DSD Simulated by a Cloud-Resolving Model: Validations and Applications
- P3.74 **Yahui Huang, Alan Blyth, Phil Brown, Paul Connolly, Tom Choullarton, Hazel Jones**  
Case Studies of the Development of Ice and Precipitation in UK Cumulus Clouds during ICEPIC
- P3.75 **Yan-Wei Li, Sheng-Jie Niu, Ning Luo, Ji-Fen Wen, Hao-Jun Huang**  
Numerical Simulation of a Mixed Convective and Stratiform Cloud System in Guizhou Province
- P3.76 **You W. Wu**  
Statistical Method Research of Ground Random Seeding Effectiveness on Convective Cloud in Jiangxi, China
- P3.77 **Yuchun Xiang, Renmao Tang, Jianyuan Ye, Jian Liu, Zhengteng Yuan**  
A Detective Analysis on the Effect of A Seeding Experiment on Convective Cloud
- P3.78 **Yunfei Fu, Qi Liu, Ling Sun, Yu Wang**  
Summer Convective over the Tibetan Plateau as viewed by TRMM PR in Recent Ten Years
- P3.79 **Zhi-Guo Yue, Sheng-Jie Niu, Gu Liang**

Organizational Models and Disaster Analyses of Mesoscale Convective Systems in the Weibei Region of Shaanxi Province

P3.80 **Zhou Lina**

The research of the hail weather of Guizhou province in China

P3.81 **Zlatko Vukovic**

The forecast errors of GEM and RUC models for convective and non-convective days

13:15-14:45

Poster Session P4: RICO

Chairperson: TBD

P4.1 **Dan K. Arthur, Sonia Lasher-Trapp, Ayman Abdel-Haleem, David S. Ebert**

A New Three-Dimensional Visualization System for Combining Aircraft and Radar Data and its Application to RICO Observations

P4.2 **David B. Mechem, Yefim L. Kogan**

Scalings for precipitation and coalescence scavenging obtained from simulations of trade cumulus

P4.3 **Hilary A. Minor, Robert M. Rauber, Sabine Goeke, Matt Freer**

Pulsation of Trade Wind Clouds and Effects on Precipitation Development

P4.4 **Jennifer L. Bewley, Sonia Lasher-Trapp**

The Effects of Entrainment and Mixing on Droplet Populations: A Comparison of Numerical Modeling and Aircraft Observations

P4.5 **Jennifer L. Davison**

Moisture Variability in Tradewind Cloud Layers and Potential Effects on Cloud Structure

P4.6 **Laurent Gomes, Olga L. Mayol-Bracero, Flavia Morales, Göran Frank, Justin Lingard**

Anthropogenic and mineral dust aerosols over the western Atlantic Ocean and their role in regulating cloud condensation nuclei

P4.7 **Louise Nuijens, Bjorn Stevens, A. P. Siebesma**

On the chances of getting wet...

P4.8 **Marilé Colón-Robles, Jorgen B. Jensen, Robert M. Rauber, James G. Hudson**

Role of the Caribbean Trade Wind Cumuli in the evolution of the "complete" aerosol spectra

P4.9 **Marilé Colón-Robles, Robert M. Rauber, Jorgen B. Jensen, Larry Di Girolamo**

Aerosol size distribution variability near Caribbean Trade Wind Cumulus Clouds

P4.10 **Panu Trivej, Bjorn Stevens**

The Power Law and the Scale Break in the Echo Size Distribution over the Barbuda Island.

P4.11 **Peter Bogenschütz, Steven Krueger, Brad Baker, Hermann Gerber**

GCSS Precipitating Shallow Cumulus Case: Comparison to RICO Aircraft Observations

P4.12 **Shaunna L. Donaher, Bruce Albrecht, Sara Tucker, Alan Brewer, Christopher Fairall**

Boundary Layer Structure and Turbulence Associated with Fair Weather Cumulus Clouds During RICO 2005

P4.13 **Steven Abel, Ben Shipway, Chris Smith**

A comparison of cloud resolving model simulations of trade wind cumulus with aircraft observations taken during RICO

P4.14 **Adriana Gioda, Olga L. Mayol-Bracero, Gabriel José Reyes-Rodríguez, Gilmarie Santos-Figueroa, Ricardo J. Morales-De Jesús, Jeff Collett, Stefano Decesari**

Cloud water and precipitation chemistry in a tropical forest in Puerto Rico, during the Rain In Cumulus over the Ocean Experiment (RICO)

13:15-14:45

Poster Session P5: CIRRUS CLOUDS

Chairperson: TBD

P5.1 **Carl G. Schmitt, Andrew J. Heymsfield**

- The properties of low latitude tropopause subvisible cirrus
- P5.2 **Chris D. Westbrook, Robin J. Hogan, Anthony J. Illingworth**  
The capacitance of realistic ice particles
- P5.3 **David Starr, Tamara Singleton, Ruei-Fong Lin**  
Role of gravity waves in determining cirrus cloud properties
- P5.4 **Dennis Lamb, Alfred M. Moyle, Jerry Y. Harrington, Lindsay M. Sheridan**  
Microphysical Roots of Cirriform Clouds: Role of Crystal-growth Kinetics
- P5.5 **Donifan Barahona, Athanasios Nenes**  
Parameterization of Cirrus Cloud Formation in Large Scale Models: Homogeneous Nucleation.
- P5.6 **Erin K. Nugent, Steven P. Neshyba, Pavel Jungwirth**  
Molecular dynamics simulations of cirrus-like ice crystal growth and sublimation.
- P5.7 **Hanna Joos, Peter Spichtinger, Ulrike Lohmann**  
Orographic Cirrus in the Global Climate Model ECHAM5
- P5.8 **Iulia V. Gensch, Darrel Baumgardner, Robert L. Herman, Paul Lawson, Peter Popp, Jessica B. Smith, Martina Krämer**  
Microphysics, supersaturations and nitric acid in Arctic, mid-latitude and tropical cirrus clouds: modeling-observations closure studies
- P5.9 **Junshik Um, Greg M. McFarquhar, Matt Freer**  
Microphysical characteristics of tropical cirrus from the 2006 Tropical Warm Pool International Cloud Experiment
- P5.10 **Kerry G. Meyer, Steven Platnick, Ping Yang, Bo-Cai Gao**  
Retrieving Cirrus Cloud Optical Thickness Using MODIS 1.38- $\mu\text{m}$  Reflectance Observations
- P5.11 **M. de Reus, A. Bansemer, W. Frey, A. J. Heymsfield, C. Schiller, N. Sitnikov, S. Borrmann**  
In-situ measurements of ice crystals in the tropical stratosphere
- P5.12 **Martina Kraemer, Cornelius Schiller, Ottmar Moehler, Volker Ebert, Nikolay Sitnikov, Marian de Reus, Peter Spichtinger**  
Supersaturations in cirrus: field and laboratory observations
- P5.13 **Narihiro Orikasa, Tetsu Sakai, Masataka Murakami, Atsushi Saito, Takuya Tajiri, Katsuya Yamashita, Tomohiro Nagai**  
Balloonborne observation of cirrus cloud particles and aerosols measured with hydrometeor videosonde, Snow White hygrometer, and optical particle counter
- P5.14 **Paul J. Connolly, Andrew Heymsfield, Geraint Vaughan, Tom Choulaton**  
Observations of aerosols within tropical anvil clouds
- P5.15 **Peter Spichtinger, Piotr K. Smolarkiewicz**  
Turbulence in cirrus clouds
- P5.16 **Ruben Rodriguez De Leon, David S. Lee, Martina Kramer, Jean Claude Thelen**  
A sensitivity study on linear-contrail global radiative forcing
- P5.17 **Ruei-Fong Lin, Jennifer M. Comstock, David O. Starr**  
Estimation of deposition rate in cirrus using Raman lidar and cloud radar
- P5.18 **Subhashree Mishra, David L. Mitchell, Daniel DeSlover, Greg McFarquhar**  
Ground Based Remote Sensing of Small Ice Crystal Concentrations in Arctic Cirrus Clouds
- P5.19 **Tian Lin, Gerry Heymsfield, Liao Liang, Lihua Li**  
Convective- generated cirrus observed by CRS and EDOP during TC4
- P5.20 **Vincent Giraud, Guillaume Penide, Artemio Plana-Fatorri, Philippe Dubuisson, Alain Protat, Jacque Pelon**  
Mesoscale cirrus cloud modeling and comparisons against remote sensing data collected from space and aircraft during the CIRCLE Campaign.
- P5.21 **Y. Yin, L. Jin, Geraint Vaughan, G. Allen, P. Connolly, A. Heymsfield, A. Bansemer**

14:45-16:45

**Parallel Oral Session 4: RICO (with Session 5: CIRRUS CLOUDS)**

Chairperson: **Robert Rauber**

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|-------------|-----|--|
| 14:45-15:00 | 4.1 | <b>Invited: Bjorn Stevens</b><br>Rain, Smoke & Mirrors   |
| 15:00-15:15 | 4.2 | <b>Hermann E. Gerber, Glendon Frick, Jorgen B. Jensen, James G. Hudson</b><br>Entrainment, Mixing, and Microphysics in Trade-Wind Cumulus  |
| 15:15-15:30 | 4.3 | <b>Jorgen B. Jensen</b><br>Vertical distribution of atmospheric sea-salt mixing ratio in the Caribbean: Fluxes and implications for the warm rain process  |
| 15:30-15:45 | 4.4 | <b>Stephan Mertes, Saskia Walter, Johannes Schneider, Stephan Borrmann, Martina Krämer, A. Gioda, G. Montero</b><br>Activation of aerosol particles observed inside Clouds at a Mountain Site on Puerto Rico during the Puerto Rico Aerosol-Cloud-Study (RICO-PRACS) |
| 15:45-16:00 | 4.5 | <b>Benjamin J. Shipway, Steven J. Abel, Chris Smith</b><br>Nucleation of cloud liquid water in a double-moment bulk microphysics scheme: Comparison with RICO observations.  |
| 16:00-16:15 | 4.6 | <b>Sylwester Arabas, Hanna Pawlowska, Wojciech W. Grabowski</b><br>Effective radius and droplet spectral width from RICO observations  |
| 16:15-16:30 | 4.7 | <b>Hongli Jiang, Graham Feingold, Adrian A. Hill</b><br>Evaluation of Aerosol-cloud-radiation-dynamical interactions in a large-eddy model   |
| 16:30-16:45 | 4.8 | <b>Alan M. Blyth, Jason H. Lowenstein, Stewart Davis, Sonia G. Lasher-Trapp, Ken Carslaw</b><br>The production of warm rain in shallow cumulus clouds  |

14:45-16:45

**Parallel Oral Session 5: CIRRUS CLOUDS (with Session 4: RICO)**

Chairperson: **David Starr**

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|-------------|-----|---|
| 14:45-15:00 | 5.1 | <b>Invited: Ulrike Lohmann, Peter Spichtinger, Thomas Peter</b><br>Cirrus clouds and ice supersaturated regions in a global climate model   |
| 15:00-15:15 | 5.2 | <b>Greg M. McFarquhar, Junshik Um, Matt Freer, Darrel Baumgardner, Greg Kok, Gerald Mace</b><br>Contributions of Small Ice Crystals to Number, Mass and Extinction in Tropical Cirrus: In-Situ Observations from TWP-ICE and Prior Campaigns  |
| 15:15-15:30 | 5.3 | <b>David L. Mitchell, Robert P. d'Entremont, R. P. Lawson</b><br>Satellite Remote Sensing of Small Ice Crystal Concentrations in Cirrus Clouds  |
| 15:30-15:45 | 5.4 | <b>Julien Delanoë, Robin Hogan</b><br>Ice clouds properties from space, combining radar, lidar and radiometers on-board A-Train   |
| 15:45-16:00 | 5.5 | <b>Anthony J. Baran, Richard Cotton, Clare Lee, Alejandro Bodas-Salcedo, Edwin Hirst, John Haynes, Graeme Stephens</b><br>A study of the microphysical and macrophysical properties of cirrus: An intercomparison between Cloudsat, in situ measurements, a GCM and an ice crystal model. |
| 16:00-16:15 | 5.6 | <b>Grant Allen, Peter May, Geraint Vaughan, Paul Connolly, Tom Choullarton, Andrew Heimsfield, Aaron Bansemmer</b><br>Temporal evolution in observed microphysical properties of cirrus outflow from deep tropical convection during ACTIVE   |
| 16:15-16:30 | 5.7 | <b>R. Paul Lawson, Eric J. Jensen, Brad A. Baker, Bryan Pilson, Qixu Mo</b><br>Microphysical and Radiative Properties of Maritime and Continental Cirrus Anvil Clouds: Results from TC4, NAMMA, TWP-ICE, CRYSTAL-FACI and EMERALD   |
| 16:30-16:45 | 5.8 | <b>Eric Jensen</b>  |



New open-path anvil cirrus ice crystal size distribution measurements and the role of entrained free-tropospheric aerosols in production of ice crystals in cumulonimbus clouds

**END OF SESSIONS**