

## MONDAY, OCTOBER 20, 2014

### Welcome and Overviews

Chair: Bill Randel

- 8:30 Welcome/introduction B. Randel, L. Pan
- 8:45 Program manager comments K. Jucks, S. Edgerton
- 9:00 ATTREX overview E. Jensen
- 9:20 CONTRAST overview L. Pan
- 9:40 CAST overview N. Harris
- 10:00 Preliminary findings from the LAPAN-SOWER collaborative observations at Biak, Indonesia in February 2014 Yoichi Inai

### 10:20 Break

Chair: Laura Pan

- 10:50 Jan-Mar Western Pacific meteorological overview L. Pfister, J. Bresch
- 11:50 Education and Public Outreach A. Rockwell, E. Jensen

### 12:20 Lunch

- 13:30 Data archive/submission/access discussion E. Jensen, E. Atlas, N. Harris, J. Aquino, S. Honomichl

### Transport and Dynamics

Chair: Eric Jensen

- 14:00 TTL cooling and drying during the January 2013 Stratospheric Sudden Warming K. Rosenlof
- 14:20 The relationship between small and resolved-scale variability in the Tropical Tropopause Layer (TTL) J. Bergman
- 14:40 A fine vertical wave structure and its relation with trace gas transport J.E. Kim
- 15:00 Analysis of TTL wave properties using ATTREX observations M. J. Alexander
- 15:20 Break
- 15:50 Identification of the tropical tropopause using O3-H2O tracer correlation from the ATTREX experiments L. Pan
- 16:10 TTL Transport Rates Across the Equatorial Pacific during Boreal Winter J. Pittman
- 16:30 NAME modelling activities for the CAST-CONTRAST-ATTREX VSLS measurements M. Filus
- 16:50 Analysis of trace gas measurements made near the outflow of active and aged convection during CONTRAST J. Luo
- 17:10 Discussion
- 17:30 Adjourn



Questions during webcast: **Tweet**  
#CONTRASTATTREXCAST



Network: NCAR Guest  
Password: **awgawconlyd**

Meeting webcast address: <http://tinyurl.com/CONTRAST-ATTREX-CAST>

## TUESDAY, OCTOBER 21, 2014

### UTLS humidity and clouds

Chair: Lenny Pfister

- 8:30 Horizontal variability of water and its relationship to cloud fraction near the tropical tropopause H. Selkirk
- 8:50 Evaluation of CESM microphysics using ATTREX data C. Bardeen
- 9:10 A comparison of cirrus cloud observations from the NASA ATTREX-3 field mission with simulations from the NCAR atmospheric CESM model (CAM5) coupled with an advanced cirrus cloud model (CARMA) C. Maloney
- 9:30 Cloud microphysical properties in cirrus during the Airborne Tropical Tropopause Experiment (ATTREX) S. Woods
- 9:50 What do ATTREX measurements tell us about the size distributions of ice crystals detrained from deep convection? E. Jensen
- 10:10 How much ice is there in the Tropical Tropopause Layer? Observations from the ATTREX mission, from the Global Hawk and from Space M. Avery

### 10:30 Break

Chair: Eric Jensen

- 11:00 In situ observations of water vapor and cirrus IWC in the Pacific TTL during ATTREX T. D. Thornberry
- 11:20 Relative humidity distributions in the tropical tropopause layer measured during NASA ATTREX A. Rollins
- 11:50 Comparison of Trajectory Cloud Model Results with ATTREX and CALIOP Observations M. Schoeberl
- 12:10 Lunch
- 13:30 Trajectory and Microphysical Modeling of TTL Water R. Ueyama
- 13:50 Effects of Non-Spherical Ice Crystal Shape on Modeled Properties of Thin Tropical Tropopause Layer Cirrus R.D. Russotto
- 14:10 Discussion

### Ozone structure and controlling processes

Chair: Neil Harris

- 14:30 Structures of tropical tropospheric ozone profiles observed in CONTRAST and analyses of the controlling mechanisms L. Pan
- 14:50 Ozone sonde Measurements of Low Ozone during CAST G. Vaughan

## TUESDAY, OCTOBER 21, 2014 (CONTINUATION)

- 15:10 Low ozone in the Tropical Tropopause Layer (TTL) over the western tropical Pacific E. J. Hints
- 15:30 **Break**
- 16:00 Determination of stratospheric and anthropogenic contributions to enhanced mid-tropospheric O<sub>3</sub> in the tropical western Pacific D. Anderson
- 16:30 Behavior of dry layers in the CONTRAST domain from global analyses and domain-filling trajectory studies B. Randel
- 16:50 Dry intrusion events during CONTRAST J. Bresch
- 17:10 Measurements of NO and O<sub>3</sub> from the BAe 146 aircraft during the CAST project J. Lee
- 17:30 Discussion
- 17:50 **Adjourn**

## WEDNESDAY, OCTOBER 22, 2014

### Composition and chemistry (VSLS/VOC)

Chair: Ross Salawitch

- 8:30 Organic Halogen and Related Trace Gases in the Tropical Atmosphere: Results from Recent Airborne Campaigns Over the Pacific E. Atlas
- 8:50 VSLS, DMS and NMHC measurements over the west tropical Pacific during the Co-ordinated Airborne Studies in the Tropics (CAST) campaign S. Andrews
- 9:10 CAM-chem model evaluation of the emissions and distribution of VSLS in the lower and free troposphere over the eastern and western Pacific using observations from TORERO and CONTRAST B. Hornbrook
- 9:30 Geographical distribution of selected organic trace gases in the UT/LS region of the Pacific M. Navaro
- 9:50 Quantifying VSLS Emissions using the TOMCAT 3-D CTM H. Mantle
- 10:10 **Break**
- 10:40 Spatial distributions and inter-hemispheric gradients observed for NMHCs, OVOCs and HVOCs observed during CONTRAST and compared to models and previous research missions E. Apel and N. Blake
- 11:00 Ground-based measurements of trace gases in Manus and the Pacific N. Harris

- 11:20 Characterization of transport and dynamical boundaries during CONTRAST using chemical tracers S. Schaffler
- 11:40 Discussion
- 12:00 **Lunch**
- 13:20 **Poster Session \*\***
- Composition and chemistry (BRO/partitioning)**  
Chair: Elliot Atlas
- 15:20 The First Simultaneous Airborne Measurements of BrO, BrCl and HOBr in the Tropics: An Assessment on the HOX Budget and O<sub>3</sub> Depletion M. Le Breton
- 15:40 Airborne Observations of BrO and HOBr by Chemical Ionization Mass Spectrometry (CIMS) during the campaign of CONvective TRansport of Active Species in the Tropics (CONTRAST) D. Chen
- 16:00 BrO in the Tropical and Subtropical UTLS: Longitudinal Gradients over the Pacific Ocean R. Volkamer
- 16:20 Bromine Chemistry in the Tropical UTLS during the ATTREX Experiments J. Stutz
- 16:40 Stratospheric Injection of Bromine from Very Short Lived Sources R. Salawitch
- 17:00 Bromine radicals in the tropical troposphere: a GEOS-Chem perspective J. Schmidt
- 17:20 Discussion
- 17:40 **Adjourn**

## THURSDAY, OCTOBER 23, 2014

Chair: Ross Salawitch

- 8:30 Composition and chemistry (IO, modeling, and other measurements) IO in the Lower Stratosphere and Vertical Profiles over the Tropical Eastern and Western Pacific T. Koenig
- 8:50 Global modelling of tropospheric iodine: Assessment and implications. M. Evans
- 9:10 Examining the Oxidative Capacity of the Troposphere in the Remote Tropical Western Pacific J. Nicely
- 9:30 Atmospheric Lifetimes and Stratospheric Removal Rates for Greenhouse Gases and Ozone Destroying Substances from CO<sub>2</sub>-tracer relationships S. Wofsy
- 9:50 CO<sub>2</sub> measurements during CAST J. Lee
- 10:10 Discussion
- 10:30 **Break**
- 11:00 Breakout discussions
- 12:00 **Lunch**  
Chair: Neil Harris
- 13:30 Breakout discussions (continued)
- 14:30 Reports from breakout groups (plenary)
- 15:10 Wrapup discussion (action items, publication plans, future meetings)
- 15:40 **Adjourn**

## POSTERS

- A. Preliminary Box Modeling Results of Formaldehyde During CONTRAST  
**Dan Anderson**
- B. Measurements of NO, NO<sub>2</sub>, and O<sub>3</sub> on the GV during CONTRAST  
**Andy Weinheimer**
- C. Data quality and coverage of the CO, CO<sub>2</sub>, and CH<sub>4</sub> observations during CONTRAST  
**Teresa Campos**
- D. Assessment of DLH Instrument Performance During ATTREX 1-3  
**G. Diskin**
- E. Tests on the CAST Ozonesondes  
**Richard Newton**
- F. Airborne measurements over the west tropical Pacific during the Co-ordinated Airborne Studies in the Tropics (CAST) campaign  
**Steve Andrews**
- G. Distributions and Correlations of organic trace gases in the Western Pacific Atmosphere  
**Valeria Donets**
- H. CAST (Co-ordinated Airborne Studies in the Tropics): Overview and highlights  
**Neil Harris**
- I. Measurements of Iodine Monoxide Levels During the CAST Campaign Using Broadband Cavity Enhanced Absorption Spectroscopy  
**Bin OuYang**
- J. Age of air analysis in GEOS-CHEM  
**Robyn Butler**
- K. TOGA and AWAS measurements during CONTRAST  
**E. Apel**
- L. Inter-comparisons of TOGA and AWAS measurements during CONTRAST  
**Becky Hornbrook**
- M. CO<sub>2</sub> Variation in the Tropical Upper Troposphere Associated with Surface CO<sub>2</sub>, Convective Activity, and Horizontal Advection  
**Yoichi Inai**
- N. HARP actinic flux measurements and photolysis frequencies during CONTRAST  
**S. Hall**
- O. CO<sub>2</sub> Variation in the Tropical Upper Troposphere Associated with Surface CO<sub>2</sub>, Convective Activity, and Horizontal Advection  
**Yoichi Inai**