**Joyce Hui-Yun Chou**

Center for Earth Observing and Space Research

College of Science

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**EDUCATION**

**MS in Computer Science, 1993**

South Dakota School of Mines and Technology, Rapid City, SD

**MS in Meteorology, 1991**

South Dakota School of Mines and Technology, Rapid City, SD

**EMPLOYMENT**

**Research Associate, November 2002 - Present**

Center for Earth Observing and Space Research

College of Science

George Mason University, Fairfax, VA.

* Science analyst and software developer for the Precipitation Processing System (PPS) in support of the NASA Global Precipitation Mission (GPM). Primary responsibilities include the design, implementation, integration and testing of the science algorithms, tools and the PPS software components.

**Senior Research Associate, July 1997 - October 2000**

Dept. of Atmospheric Science, University of Alabama in Huntsville, Huntsville, AL

**Research Scientist I, July 1993 - June 1997**

Institute of Atmospheric Sciences, South Dakota School of Mines and Technology, Rapid City, SD

**Graduate Research Assistant, September 1989 - June 1993**

Institute of Atmospheric Sciences, South Dakota School of Mines and Technology, Rapid City, SD

**COMPUTER SKILLS**

**Programming Languages**

* Java, Java Swing, Python, SQL
* XML, XSLT/XSL, XPath
* C++, C and FORTRAN
* UNIX/LINUX Shell programming
* IDL and PV-WAVE

**Tools/Applications**

* Eclipse, NetBeans, CVS, GIT
* MS Office

**Operating Systems**

* Microsoft Windows, MacOS
* UNIX, Linux
* DOS

**PUBLICATIONS**

**Journal Papers**

Han, Q. Y., W. B. Rossow, J. Chou, and R. M. Welch, 2000: Near-global survey of cloud column susceptibility using ISCCP data. Geophys. Res. Letts. 27, 3221-3224.

Li, X., S.A. Christopher, J. Chou, and R.M. Welch, 2000: Estimation of shortwave direct radiative forcing of biomass burning aerosols using angular dependence models. J. Appl. Meteor., 39, 2278-2291.

Christopher, S.A., J. Chou, J. Zhang, X. Li and R.M. Welch, 2000: Shortwave Direct Radiative Forcing of Biomass Burning Aerosols Estimated From VIRS and CERES. Geophys. Res. Letters, 27, 2197-2200.

Han, Q. Y., W. B. Rossow, J. Chou, K.-S. Kuo, and R. M. Welch, 1999: The Effects of aspect ratio and surface roughness on satellite retrievals of ice-cloud properties.  J. Quantitative Spectroscopy and Radiative Transfer, 63, 559-584.

Greenwald, T.J., Christopher, S.A., J. Chou, and J. Liljegren, 1999: Intercomparison of Cloud Liquid Water Path Derived From the GOES-9 Imager and Ground Based Microwave Radiometers, J. Geophys. Res, 104, 9251-9260.

Han, Q. Y., W. B. Rossow, J. Chou, and R. M. Welch, 1998: Global survey of the relationship of cloud albedo and liquid water path with droplet size using ISCCP. J. Climate, 11, 1516-1528.

Han, Q. Y., W. B. Rossow, J. Chou, and R. M. Welch, 1998: Global Variation of Column Droplet Concentration in Low-level Clouds. Geophys. Res. Letts. 1419-1422.

Greenwald, T.J., S.A. Christopher, and J. Chou, 1997: Cloud liquid water path comparisons from passive microwave and solar reflectance satellite measurements: Assessment of sub-field-of-view cloud effects in microwave retrievals. J. Geophys. Res. 102(D16), 19585-19597.

Christopher, S.A., and J. Chou, 1997: The potential of the AVHRR GAC land Pathfinder data for aerosol and earth radiation budget studies. Int. J. Rem. Sensing, 18(12), 2657-2676.

Christopher, S. A., D.V. Kliche, J. Chou, and R.M. Welch, 1996: First Estimates of the Radiative Forcing of Aerosols Generated from Biomass burning Using Satellite Data. J. Geophys. Res., 101(D16), 21265-21273.

Han, Q., W. Rossow, R. Welch, A. White, and J. Chou, 1995: Validation of satellite retrievals of cloud microphysics and liquid water path using observations from FIRE. J. Atmos. Sci., 52, 4183-4195.

Chou, J., R. C. Weger, J. M. Ligtenberg, P. Breeden, K.-S. Kuo and R. M. Welch, 1994: Segmentation of polar scenes using multispectral texture measures and morphological filtering. Intnl. J. Remote Sensing, 15(5), 1019-1036.

Lee,J., J. Chou, R. C. Weger and R. M. Welch, 1994: Clustering, randomness, and regularity in cloud fields: 4. Stratocumulus cloud fields. J. Geophys. Res., 99(D7), 14461-14480.

**Conference Papers and Presentations**

Stocker, E. F., J. Chou, Y. Ji, O. A. Kelly, J. Kwiatkowski, J. Stout and L. Woltz, 2017: Changes to GPM Core Data Products as a Result of the V05 Reprocessing. European Geosciences Union General Assembly 2017, 23-28 April 2017, Vienna, Austria.

Stocker, E. F., Y. Ji, J. Chou, O. A. Kelly, J. Kwiatkowski and J. Stout, 2016: Incorporation the TRMM Dataset into the GPM Mission Data Suite. Proc. 2016 International Geoscience and Remote Sensing Symposium (IGARSS), 10-15 July 2016, Beijing, China, 3923-3925.

Chou, J., 2013: GPM Level 1C Algorithms. Global Precipitation Measurement (GPM) Precipitation Processing System (PPS) Operational Readiness Review, 13-14 Nov. 2013, NASA Goddard, Greenbelt, Maryland.

Stocker, E. F. and J. Chou, 2013: GPM Intercalibrated Radiometer Brightness Temperatures. European Geosciences Union General Assembly 2013, 7-12 April 2013, Vienna, Austria.

Chou, J., 2011: GPM Level 1C Framework. Global Precipitation Measurement (GPM) Precipitation Processing System (PPS) Build 3 Review, 16-18 Aug. 2011, NASA Goddard, Greenbelt, Maryland.

Chou, J., 2010: GPM Level 1C Algorithms. Global Precipitation Measurement (GPM) Precipitation Processing System (PPS) Build 2 Review, 10-11 Aug. 2010, NASA Goddard, Greenbelt, Maryland.

Stocker, E. F., J. Chou and L. Woltz, 2010: Changes in the TRMM version 7 space/time averaged level 3 data products based on GPROF TMI swath-based precipitation retrievals. European Geosciences Union General Assembly 2010, 2-7 May 2010, Vienna, Austria.

Kwiatkowski, J., E. Stocker, Y. Ji, J. Stout, J. Chou, P. McCaughey, O. Kelley, T. Stocker, M. Hensley and S. Bilanow, 2008: Transition from TSDIS to the Precipitation Processing System. 3rd International TRMM Science Conference. 4-8 Feb. 2008, Las Vegas, Nevada .

Chou, J., 2006: Algorithm Submission Service. Global Precipitation Measurement (GPM) Precipitation Processing System (PPS) Build 1 Review, 21-22 Feb. 2006, NASA Goddard, Greenbelt, Maryland.

Chou, J., 2004: Parameter Subsetting Service. Global Precipitation Measurement (GPM) Precipitation Processing System (PPS) Second Demonstration, 5-6 May 2004, NASA Goddard, Greenbelt, Maryland.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 2000: Retrieval of cloud column susceptibilities of water clouds using satellite data. Preprints, the 10th Conf. On Satellite Meteorology and Oceanography, 9-13, Jan. 2000, Long Beach, CA, 326-329.

Han, Q., W. B. Rossow, J. Chou, K.-S. Kuo and R. M. Welch, 1999: Effects of size distributions and effective variance on the retrieval of ice-cloud properties. Proceeding of the 20th CERES Science Team Meeting, 7-9, Dec. 1999, San Diego, CA.

Li, X., S.A. Christopher, J. Chou, and R.M. Welch, 1999: Impact of Central American Fires on Radiation Budget over ARM CART Site, IAMAS Symposium/IUGG99, Birmingham, England, 1999.

Han, Q., W. B. Rossow, J. Chou, K.-S. Kuo and R. M. Welch, 1999: Observed Effects of Cloud Droplet Concentration on Albedo for Low-Level Clouds Using Satellite Data. Preprints, the 22nd General Assembly of the International Union of Geodesy and Geophysics, 18-30, July 1999, Birmingham, UK.

Li, X., S.A Christopher, J. Zhang, J. Chou, and R.M. Welch, 1999: Satellite remote sensing of fires, smoke and regional radiative energy budgets, SPIE, Denver, 1999.

Li, X., S.A. Christopher, J. Zhang, J. Chou, and R.M. Welch, 1999: Aerosol single scattering albedo estimation from NOAA-14 measurements: Case studies over Brazil, SPIE, Denver, 1999.

Han, Q., W. B. Rossow, J. Chou, K.-S. Kuo and R. M. Welch, 1999: Calibration of channel 3 of the AVHRR, Preprints, Infrared Spaceborne Remote Sensing VII, SPIE’s International Symposium, 18-23 July 1999, Denver, CO.

Christopher, S.A., J. Zhang, X. Li, and J. Chou, 1999: Radiative Effects of Biomass Burning Aerosols, AMS conference on Atmospheric Radiation, Wisconsin, Jun-Jul, 1999.

Han, Q., J. Chou and R. M. Welch, 1999: Uncertainties in retrievals of cirrus cloud properties using satellite data. Proceedings of the 19th CERES Science Team Meeting, 26-28, Apr. 1999, Langley, VA.

Han, Q., J. Chou and W. B. Rossow, 1998: Estimate the aerosol indirect effect from space. Presented at the Aerosol Science Meeting. Nov. 18-20, 1998, NASA/GISS, New York, NY.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1998: The effect of nonspherical shape on the retrieval of ice particle sizes from satellite observation. Preprints Conf. On light scattering by nonspherical particles: Theory, measurements, and applications. 29 Sep. – 1 Oct. 1998, New York, NY, 55-58.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1998: The effect of nonsphericity on the retrieval of particle sizes of ice-cloud. Invited seminar at NASA/GISS, June 20, 1998.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1998: The effect of nonsphericity on the retrieval of particle sizes of ice-cloud. Invited seminar at NASA/GISS, June 20, 1998.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1998: Sensitivity of particle shape and its effect on the satellite remote sensing of particle sizes. Proceedings of the 17th CERES Science Team Meeting, 16-18, Apr. 1998, Langley, VA.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1998: On the definition of ice particle size used in satellite remote sensing. Preprints in the CERES Science Team Meeting. 16-18, Apr. 1998, Langley, VA.

Han, Q. Y., J. Chou and R. M. Welch, 1997: Cloud properties inferred from POLDER polarization measurements. Proceedings of SPIE, 3220, 205-210.

Han, Q. Y., J. Chou and R. M. Welch, 1997: Ice cloud microphysics and its temperature dependence retrieved from satellite data. Proceedings of SPIE, 3220, 39-47.

Han, Q., J. Chou and R. M. Welch, 1997: Initial results from POLDER observations. Proceedings of the Sixteenth CERES Science Team Meeting, 15-18, Sep. 1997, Corvakkis, OR, I91-I111.

Han, Q. Y., J. Chou and R. M. Welch, 1997: Relationship between cirrus particle size and cloud top temperature observed from satellite data. 1997 International Geoscience and Remote Sensing Symposium (IGARRSS'97) Digest, Singapore, Aug. 1997.

Han, Q. Y., J. Chou and R. M. Welch, 1997: Aerosol optical thickness over ocean areas and its relationship with cloud droplet size. 1997 International Geoscience and Remote Sensing Symposium (IGARRSS'97) Digest, Singapore, Aug. 1997.

Kliche, D. V., J. Chou, J. M. Weiss, S. A. Christopher, R. M. Welch, T. A. Berendes and K.-S. Kuo, 1997: Global survey of jet contrails using AVHRR data: Spatial distribution and optical property retrievals. Preprints, IGARSS’97, Aug. 3-8, 1997, Singapore.

Chen, H., Q. Han, J. Chou and R. M. Welch, 1997: Analysis of POLDER polarization measurements during ASTEX and EUCREX experiments. In Preprint 9th Conf. Atmospheric Radiation, 2-7 Feb. 1997, Long Beach, CA, AMS, 274-278.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1997: Global survey of the relationship between cloud droplet size and albedo using ISCCP. In Preprints, 9th Conf. Atmospheric Radiation, 2-7 Feb. 1997, Long Beach, CA, AMS, 426-430.

Han, Q., W. B. Rossow, J. Chou and R. M. Welch, 1997: Comparison of ice cloud particle sizes retrieved from satellite data derived from in situ measurements. In Preprint 9th Conf. Atmospheric Radiation, 2-7 Feb. 1997,
Long Beach, CA, AMS, 368-372.

Chou, J., S. A. Christopher and R. M. Welch, 1996: ERBE and PATHFINDER investigation of biomass burning in South America. Fifteenth annual conference on American Association for Aerosol Research, 14-18 Oct., 1996, Orlando, FL.

Han, Q., W. B. Rossow, J. Chou, and R. M. Welch, 1996: A near-global survey of cirrus particle size using ISCCP. Preprints, Eighth Conf. Satellite Meteor. Oceanogr., Jan 28-Feb. 2, 1996, Atlanta, GA by the Amer. Meteor. Soc., Boston, MA., 369-372.

Han, Q., R. M. Welch, and J. Chou, 1995: Retrieval of cirrus microphysics over oceans on a near-global scale using ISCCP data.  Preprints, AMS Conf. Cloud Physics, 15-20 Jan 1995, Dallas, TX, Amer. Meteor. Soc., 583-585.

Han, Q., W. Rossow, R. Welch, A. White and J. Chou, 1995: Comparison of cloud droplet radii and LWP retrieved by satellite data with observations from FIRE. Proc. Conf. on Cloud Physics, 15-20 Jan 1995, Dallas, TX Amer. Meteor. Soc., 65-69.

Christopher, S.A., J. Chou, A. Vander Vorste, and R.M. Welch, 1995: The effect of cloud optical properties on sea surface temperature in the tropics. Proc. Fourth Conf. on Global Change Studies, Dallas, TX, Amer. Meteor. Soc.,148-151.

Christopher, S.A., J. Chou, A. Vander Vorste, R.M. Welch and T.H. Vonder Haar, 1994: The effect of cloud optical properties on cloud radiative forcing in the tropics. Proc. SPIE European Symposium on Satellite Remote Sensing, 26-30 Sep, 1994, CNR, Rome, Italy.

Hjelmfelt, M. R., H-Y. Chou, R. D. Farley and D. L. Priegnitz, 1992: Organization and development of a squall line in North Dakota as revealed by Doppler radar and numerical simulations. Preprints, 5th Conf. Mesoscale Processes, Atlanta, GA, Amer. Meteor. Soc., 221-226.