

ELECTRICAL &
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"The Global Precipitation Measurement Mission: Instruments and Science

by

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http://www.nasa.gov/mission_pages/hurricanes/bios/jackson_bio.html

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Abstract: High spatial and temporal resolution global precipitation estimates are important for understanding the Earth's energy and water cycles. Thus, the upcoming NASA/JAXA Global Precipitation Measurement (GPM) mission seeks to estimate precipitation (falling snow as well as liquid rain) globally using physically-based retrieval approaches. The GPM concept centers on deploying a Core spacecraft carrying a dual-frequency precipitation radar and a microwave radiometric imager with channels from 10 to 183 GHz to serve as a precipitation physics observatory and a calibration reference to unify a constellation of dedicated and operational passive microwave sensors. A summary of the GPM mission, sensors, and scientific objectives will be provided. Progress and challenges associated with GPM algorithm development work for physically-based precipitation estimates over land will be presented, with a focus on snowfall detection and estimation algorithms. This seminar will show that surface emission contributions to the satellite observed brightness temperatures over land can add uncertainty in detecting and estimating precipitation over land. The presentation will provide the basis for understanding the importance of the GPM mission for science and society, to know the advancements in GPM sensor development, and the progress and challenges in precipitation algorithm development.

Biography: Gail M. Skofronick-Jackson received the B.S. degree in electrical engineering from Florida State University, in Tallahassee, FL and the M.S.E.E. and Ph.D. degrees from Georgia Institute of Technology, in Atlanta, GA. In 1997 she began working at NASA Goddard Space Flight Center in Greenbelt, MD as a Post-Doc Research Associate. Currently she is a government Physical Scientist at NASA in the Mesoscale Atmospheres Branch. She is Deputy Project Scientist for the Global Precipitation Measurement (GPM) mission. Her research interests include using satellite remote sensing to estimate rain rate, snowfall rate, and the vertical profiles of clouds.

Please contact Professor V. Chandrasekar chandra@engr.colostate.edu, with any questions.