

# 2020 Workshop: Discovery Science near the magnetic equator

Long title

Discovery science near the magnetic equator

Conveners

David Hysell

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Description

A number of dramatic discoveries are emerging from research in the equatorial ionosphere. These include progress in understanding and forecasting ionospheric irregularities and space weather, discoveries of new waves and instabilities in the valley region, F region, and inner plasmasphere, and a better appreciation for the impact of neutral winds and waves on the ionospheric state. These discoveries are matched by a number of new observing platforms and methods. ICON, GOLD, and COSMIC II offer exciting opportunities for renewing what we know about the ionosphere at low and middle latitudes. Jicamarca is undergoing a substantial upgrade which will permit the measurement of all ionospheric state variables simultaneously and also allow almost continuous ISR observations. The LISN network and some newly-deployed optical instruments will promote discovery research further. Finally, the possibility of a NASA sounding rocket campaign from PERU in the next few years appears likely and timely.

This workshop will review some of the most notable, recent discoveries and connect the work with the myriad experimental possibilities that have emerged suddenly together. The goal is to help join experimentalists, theorists, and modelers with a range of backgrounds and channel their efforts into the most promising emerging lines of research near the magnetic equator.

Agenda

Marco Milla: [Jicamarca facility and upgrade status](#) (pdf)

Jorge Chau: [Multistatic meteor wind campaigns](#) (pdf)

Gerald Lehmacher: [150 km echo experimental results](#) (pdf)

William Longley: [150 km echo theory](#) (pdf)

Carlos Martinis: Optical research at magnetic equator

Cesar Valladares: [LISN status](#) (pdf)

David Hysell: [ESF forecasting](#) (pdf)

Fabiano Rodrigues: [AMISR 14 results](#) (pdf)

Sevag Derghazarian: [High-altitude echoes](#) (pdf)

Joe Huba: [IVM/ SAMI3 model comparisons](#) (pdf)

Robert Pfaff: [NASA rocket campaign in Peru](#) (pdf)

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