

# International Conference and Exhibition on **Satellite**

August 17-19, 2015 Houston, USA

## Protected Antipode Circle (PAC) on the far side of the Moon

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The international scientific community and especially the IAA (International Academy of Astronautics) have long been discussing the need to keep the Farside of the Moon free from man-made RFI (radio frequency interference). In fact, the center of the Farside, specifically crater Daedalus, is ideal to set up a future radio telescope (or phased array) to detect radio waves of all kinds that are impossible to detect on Earth because of the ever-growing RFI. Nobody, however, seems to have established a precise border for the circular region around the antipode of the Earth (i.e. zero latitude and 180° longitude both East and West) that should be Protected from wild human exploitation when several nations will have reached the capability of easy travel to the Moon. In this presentation we propose of PAC, the Protected Antipode Circle, centered around the antipode on the Farside and spanning an angle of 30° in longitude, in latitude, and in all radial direction from the antipode. There are sound scientific reasons for this:

1. PAC is the only area on the Farside that will never be reached by radiation emitted by future human space bases located at the L4 and L5 Lagrangian points of the Earth-Moon system;
2. PAC is the most shielded area of the Farside, with an expected attenuation of man-made RFI of 100 dB or higher;
3. PAC does not overlap with other areas of interest to human activity except for a minor common area with the Aitken Basin, the southern depression supposed to have been created 3.8 billion years ago during the “big wham” between the Earth and the Moon.

In view of the unique features, we propose PAC to be officially recognized by the United Nations an International Protected Area, where no radio contamination by humans will possibly take place now and in the future for the benefit of all humankind.

### Biography

Claudio Maccone is an Italian SETI astronomer, space scientist and mathematician. In 2002 he was awarded the “Giordano Bruno Award” by the SETI League, for his efforts to establish a radio observatory on the farside of the Moon. In 2010 he was appointed Technical Director for Scientific Space exploration by the International Academy of Astronautics. Since 2012, he has chaired the SETI Permanent Committee of the International Academy of Astronautics, succeeding Seth Shostak of the SETI Institute, who held that position from 2002 to 2012. He obtained his PhD at the Department of Mathematics of King's College London in 1980. He then joined the Space Systems Group of Aeritalia in Turin as a technical expert for the design of artificial satellites, and got involved in the design of space missions. In 2000 he was elected as Co-Vice Chair of the SETI Committee of the IAA. He has published over 100 scientific and technical papers, most of them in “Acta Astronautica.” In 2010, he was appointed Technical Director of Scientific Space Missions for the International Academy of Astronautics. In 2012, he became a founding member of the Advisory Council of the Institute for Interstellar Studies.

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