
SatMeet10 - Ground- and Space-Based Imaging of Exo-Earths: Opportunities for Synergy and Collaboration over the Coming Two Decades

Avi Mandell*^{†1}, William Sparks*², Michael Meyer*³, Stephen Unwin*⁴, and Giovanna Tinetti*⁵

¹NASA Goddard Space Flight Center (NASA GSFC) – United States

²Space Telescope Science Institute (STScI) – United States

³Institute of Astronomy, ETH Zurich – 8093 Zürich, Switzerland

⁴Jet Propulsion Laboratory (JPL) – 4800 Oak Grove Dr, Pasadena, CA 91109, United States

⁵University College London - London's Global University (UCL) – Gower Street - London, WC1E 6BT, United Kingdom

Abstract

Over the next two decades, a generation of ambitious, highly-capable ground- and space-based observatories, instruments, and analysis tools will become available that will, by means of direct detection and characterization of exoplanets, answer the most exciting questions in the study of exoplanets: Where are the nearby habitable planets? What do observations of their atmospheres and surfaces reveal? And, of course, are there signs that they host life? We can address how planetary systems of all kinds form and evolve, and what the key relationships are that link stellar properties and the diverse types of planets found. This "satellite meeting" is intended to be a forum where the major facilities expected to be in operation by the end of the next twenty years (ELTs, ALMA, future space-based imaging missions) will be summarized and discussed within the context of synergies among them, and with other facilities and instruments. Opportunities for international participation will be explicitly discussed and a short list of recommended actions to achieve effective collaboration will be produced. We estimate five to ten major missions, facilities, or concepts will be briefly presented, allowing adequate time for discussion of "next steps" towards a roadmap for discovering and characterizing Earth-like worlds.

*Speaker

[†]Corresponding author: Avi.Mandell@nasa.gov