

UCLA Department of Physics & Astronomy

COLLOQUIUM

Thursday, January 29th, 2026 at 4 p.m.

PAB 1-434

A 100-year SETI retrospective: what have we learned about the existence of alien civilizations?

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One of the most interesting questions that astronomy can hope to answer is: are we not alone in our Milky Way galaxy? Detection of an electromagnetic (EM) signal generated by an extraterrestrial technological intelligence (ETI), or the presence in our solar system of an alien probe, would provide an answer. For purposeful interstellar communication both the transmitting and receiving TI should do their part. As the receiving TI, our EM search programs should incorporate a model of what a transmitting TI is likely to be doing. Published searches for extraterrestrial technological intelligence (SETI) have generally not done this and, thus, have often been sub-optimally designed. We describe an improved search technique that more closely corresponds to astronomical surveys that have been undertaken for reasons that have nothing to do with SETI.

Published non-SETI radio and optical surveys are sufficiently extensive that they already supply meaningful constraints on the prevalence of nearby, purposely communicative, alien civilizations. In addition the absence of evidence for alien probes in the solar system suggests that no alien civilization has passed within ~100 light-years of Earth during the past few billion years.

In this talk I will outline a paper yet to be written – perhaps by graduate students &/or post-docs – that should provide a significant quantitative constraint on the prevalence of nearby, communicative, alien civilizations.

Refreshments at 3:30 p.m. PAB Patio.

Undergraduates Welcome!