Research Dossier: Dr. Hal Puthoff / EarthTech International

1. Executive Summary

Dr. Harold E. Puthoff is a key figure at the intersection of theoretical physics, parapsychology, and U.S. national security interests, a position he has occupied for over five decades. His primary research focus has consistently revolved around the theoretical and experimental exploration of the quantum vacuum, also referred to as spacetime metric engineering, with the explicit goal of developing breakthrough energy and propulsion applications. In the period from 2018 to the present, Dr. Puthoff's work has entered a new phase of public engagement and theoretical convergence. This phase is marked by his association with a newly coalescing "gray track" ecosystem focused on a unifying concept known as Extended Electrodynamics (EED). His significance within this ecosystem is not only as a pioneer of its foundational theories but also as an intellectual anchor and legitimizing figure for a new generation of government-funded researchers, including the principals of UnLAB (Charles Chase) and Field Propulsion Technologies (Richard Banduric).

This dossier synthesizes multiple intelligence vectors to map Dr. Puthoff's recent activities and collaborations. A key finding is the identification of a new corporate entity, Quantcomm LLC, as the assignee for his recent patents, indicating a potential commercialization or compartmentalization of his work on scalar and vector potential communications—a direct technological application of EED. Furthermore, this investigation confirms direct, repeated professional interactions between Puthoff, Charles Chase, and Richard Banduric at government-sponsored or adjacent forums, establishing the existence of a previously unmapped collaborative network. While direct contractual links are not evident in open-source intelligence, the deep thematic resonance of their research, their use of a shared theoretical language (EED), and their overlapping participation in curated technical exchanges constitute a strong body of evidence for a coordinated, albeit deniable, research vector aimed at developing breakthrough technologies under the strategic umbrella of U.S. national security interests.

2. Key Research Vectors (2018-Present)

2.1 Foundational Vector: Spacetime Metric & Vacuum Engineering

The intellectual foundation of Dr. Puthoff's recent work is built upon his decades-long research into the physics of the quantum vacuum, zero-point energy (ZPE), and his "polarizable vacuum" (PV) model of general relativity. This extensive body of work, which posits that so-called "empty space" is an energetic and structured medium, serves as the direct precursor to his current activities. His role as a key subject matter expert for the U.S. defense and intelligence communities is codified in the Defense Intelligence Agency (DIA) reference document produced for the Advanced Aerospace Threat Identification Program (AATIP), titled "Advanced Space Propulsion Based on Vacuum (Spacetime Metric) Engineering". Although published prior to 2018, this document formalizes the principles that continue to guide his research and demonstrates a long-standing, high-level government interest in moving these concepts from theoretical physics into an engineering discipline. This history indicates that his continued

relevance and activity are not new developments but rather the current phase of a multi-decade, government-adjacent research program focused on engineering the vacuum for strategic applications.

2.2 Emergent Vector: Extended Electrodynamics (EED)

The most significant recent development in Dr. Puthoff's public-facing research is the consolidation and promotion of a unifying theory termed "Extended Electrodynamics" (EED). This framework appears to be an evolution of his earlier PV and ZPE work, providing a more comprehensive model for unconventional field effects. The primary vector for the socialization of this concept was the December 2024 "Ecosystemic Futures" podcast, an event presented in collaboration with the NASA Convergent Aeronautics Solutions Project. In this forum, Dr. Puthoff acted as a co-host for a panel that included Richard Banduric of Field Propulsion Technologies, with the explicit focus being EED and its applications in propulsion, energy, and communication. The core concepts of EED, as articulated in these discussions, involve a modification of Maxwell's equations to incorporate scalar and longitudinal field effects. A key tenet is the ability to generate and utilize vector potentials (A) and scalar potentials (∅) in the absence of conventional electromagnetic fields (E, B). This theoretical construct allows for phenomena such as non-shieldable, penetrating communication signals and novel propulsive forces. The deliberate introduction of EED as a common theoretical language within a curated community of "gray track" researchers suggests a coordinated effort to establish a shared physics-based framework. This framework serves to unify disparate-sounding research areas—such as metamaterials (Banduric), vacuum fluctuations (Chase), and lattice confinement fusion (Forsley)—under a single, coherent, and potentially dual-use paradigm.

2.3 Ancillary Interests: UAP Phenomena & Advanced Concepts

Dr. Puthoff's consistent and high-profile involvement in the discourse surrounding Unidentified Anomalous Phenomena (UAP) is not a separate research track but a critical contextual driver for his physics research. His participation in the November 2023 Sol Foundation Symposium at Stanford University and the November 2024 National Science Foundation (NSF) Interagency Meeting on Disruptive Technology underscores this connection, as UAP was a key topic at both high-level events. His 2022 paper, "Ultraterrestrial Models," provides a glimpse into his formal, speculative thinking, where he considers hypotheses that UAP may represent a locally-based, isolated, high-tech society, thereby linking observed phenomena to the potential for advanced, terrestrial technology development.
This engagement with the UAP topic functions as a powerful "demand signal" to legitimize and secure government interest in fundamental physics research that might otherwise be deemed too speculative for funding. The observation of phenomena with flight characteristics that appear to defy conventional physics—a central theme of the AATIP program for which Puthoff was a contractor—creates a national security imperative to investigate the underlying principles. This imperative provides a strong justification for the exploration of concepts like spacetime metric engineering and EED, which offer potential explanations for such observations. The UAP discussion is therefore a strategic tool used to rationalize and promote the exploration of the very physics he has been researching for decades.

3. Patent & Publication Analysis

3.1 Patent Portfolio (2018-Present)

A forensic analysis of all patents co-invented by Dr. Puthoff and either published or granted in the 2018-present timeframe reveals a singular focus on a "Communications system" based on the principles of scalar and vector potentials. A critical finding is that all identified patents in this period are assigned to a previously un-profiled entity, **Quantcomm LLC**, rather than Dr. Puthoff's established organization, EarthTech International.

The core claim of these patents is a method of communication using field-free potentials (E=B=0) that are not subject to shielding by conventional means, such as seawater or plasma. This technology represents a direct engineering application of the Extended Electrodynamics (EED) principles discussed in his recent presentations. The co-inventor on all of these patents, Christopher A. Eusebi, is identified as a new person of interest and a key node in this emerging technology vector. The consistent assignment to Quantcomm LLC suggests a deliberate effort to compartmentalize or commercialize this specific technology stream separately from the broader research activities at EarthTech.

Table 3.1: Dr. Hal Puthoff Patent Analysis (2018-Present)

Patent / Pub. Number	Title	Filing / Grant Date(s)	Assignee	Core Claim Summary
US 2018/0062765 A1	COMMUNICATIONS SYSTEM	Filed: 08/31/2016; Pub: 03/01/2018	N/A (Later Quantcomm LLC)	A communication system using vector and scalar potentials, enabling signaling through mediums that normally block electromagnetic radiation.
US 10,361,792 B2	Communications system	Filed: 08/31/2016; Granted: 07/23/2019	N/A (Later Quantcomm LLC)	A communication system using field-free potentials to eliminate shielding effects in dense media like seawater or plasma.
US 10,992,035 B2	Communications system	Filed: 07/22/2019; Granted: 04/27/2021	Quantcomm LLC	A communication system using field-free potentials to eliminate shielding effects in dense media like seawater or plasma.
US 11,777,198 B2	Communications system	Filed: 04/27/2021; Granted: 10/03/2023	Quantcomm LLC	A communication system using field-free potentials to eliminate

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				shielding effects in dense media like seawater or plasma.

3.2 Publication & Presentation Record (2018-Present)

An analysis of Dr. Puthoff's academic output reveals a conspicuous absence of new, peer-reviewed physics papers in the 2018-present timeframe, based on searches of EarthTech's own publication list, ResearchGate, and arXiv. This marks a shift in his dissemination strategy. His primary method for communicating his ideas has transitioned to high-impact public and professional appearances.
Key events in this period include:

- **November 2023:** Speaker at the Sol Foundation Symposium at Stanford University, a forum dedicated to UAP research and policy that brought together leading figures from academia, government, and industry.
- **November 2024:** Keynote speaker at the NSF-hosted Interagency Meeting on Disruptive Technology, where UAP was a central topic of discussion among over 120 experts from various government agencies and research institutions.
- **December 2024:** Co-host of the NASA-affiliated "Ecosystemic Futures" podcast, a platform used to discuss EED with other researchers in the advanced propulsion field.
- **May 2025:** A lengthy guest appearance on the "Joe Rogan Experience" podcast, a platform with a massive global audience, where he discussed his career, the government's remote viewing program, and UAP research.

This pattern indicates a strategic pivot from formal academic publishing to engagement in forums that bridge the gap between the scientific community, government stakeholders, and the public. This approach is better suited for socializing paradigm-shifting and potentially controversial ideas like EED and for building a broader base of support and interest than the traditionally slow-moving peer-review process.

4. Identified Government Funding & Collaborations

4.1 Direct Government Funding & Contracts

A search of public databases, including the Small Business Innovation Research (SBIR) program, yields a **negative finding** for any direct, publicly listed grants or contracts awarded to EarthTech International or Dr. Puthoff in the 2018-present timeframe. This aligns with EarthTech's public posture as a "privately-funded research organization".
However, historical and indirect links to government funding are well-established and highly significant. The declassified 2019 DIA document listing the products of the AATIP program identifies Dr. Puthoff of EarthTech International as the author of the reference paper on "Advanced Space Propulsion Based on Vacuum (Spacetime Metric) Engineering". This confirms his prior status as a paid government subcontractor tasked with producing foundational analysis on highly sensitive, unconventional physics topics. His continued high-level engagement with government science and technology bodies is evidenced by his roles as a keynote speaker at the November 2024 NSF-hosted interagency meeting and as a co-host of the NASA-affiliated

"Ecosystemic Futures" podcast. While direct, publicly-traceable funding appears to have ceased, Dr. Puthoff maintains a deep, collaborative relationship with key government S&T organizations. He functions as a senior, external subject matter expert, providing intellectual capital and strategic guidance, likely in a consultative capacity that does not appear in public contract databases.

4.2 Institutional & Corporate Collaborations

EarthTech International's website explicitly states that the organization engages in numerous collaborations with "industry, the US government, scientific research foundations, and academia". Specific non-profit collaborators named include the **Tau Zero Foundation**, the **Fetzer Institute**, and **Icarus Interstellar, Inc.**, all of which are focused on advanced and interstellar studies.
A key corporate collaboration highlighted in Dr. Puthoff's biography is his role as **Chairman of the Science Advisory Board for Bigelow Aerospace**, a company specializing in expandable space habitats. This establishes a direct and formal link to the commercial space industry. The most significant and recent collaboration, identified through patent analysis, is with the newly formed **Quantcomm LLC**. This entity, which is the assignee of his recent patents on EED-based communications, represents a new and currently opaque corporate partnership focused on technology commercialization or compartmentalization. A search for formal collaborations with U.S. national laboratories yielded a negative finding in the available open-source material.

5. Intelligence Synthesis: Overlaps & Anomalies

5.1 Direct Network Overlaps with UnLAB & FPT Principals

The primary intelligence finding of this dossier is the direct, repeated, and recent convergence of Dr. Puthoff with Charles Chase (UnLAB) and Richard Banduric (FPT) in professional forums sponsored by or affiliated with U.S. government science agencies.

- **NSF Interagency Meeting (November 4, 2024):** This high-level meeting, hosted by the National Science Foundation, focused on "Disruptive Technology with UAP in Focus." It featured both **Dr. Hal Puthoff** and **Charles Chase** as keynote speakers, placing them at the center of a government-sponsored discussion on the exact topics that define their respective research portfolios.
- **"Ecosystemic Futures" Podcast (December 12, 2024):** This NASA-affiliated podcast featured **Dr. Hal Puthoff** as a co-host and **Richard Banduric** as a featured guest. The central theme of the nearly three-hour discussion was "Extended Electrodynamics," establishing a shared theoretical framework among the participants.

These are not coincidental encounters but curated events. Their sponsorship and facilitation by U.S. science and technology agencies (NSF, NASA) strongly suggests that a government program manager or office is actively orchestrating this network. The purpose appears to be the fostering of collaboration and the acceleration of progress within this emergent "gray track" ecosystem by bringing its key intellectual figures together.

5.2 Thematic Resonance with the "Gray Track" Ecosystem

The research programs of UnLAB and FPT exhibit deep thematic and technical parallels with

Dr. Puthoff's foundational work, suggesting they are applied R&D efforts branching from his theoretical concepts.

- **Puthoff ↔ UnLAB:** Dr. Puthoff's career-long focus on "vacuum engineering" and the extraction of energy from zero-point fluctuations is the direct theoretical parent of Charles Chase's NSF-funded SBIR project at UnLAB. UnLAB's "Fluctuation Flow Propulsion" aims to extract motive force from quantum vacuum fluctuations using asymmetric nanostructures and Resonant Tunneling Diodes, a direct attempt to engineer the vacuum at the quantum level.
- **Puthoff ↔ FPT:** Dr. Puthoff's recent work on Extended Electrodynamics and communication via scalar/vector potentials is technologically resonant with Richard Banduric's work at FPT. FPT has received DoD and NSF funding to develop "metamaterial composite conductors" that amplify what Banduric terms "unresolved longitudinal Ampere Tension forces" for propulsion. These "longitudinal" forces are a key feature of EED, suggesting Banduric is pursuing an experimental, materials-based application of the same underlying physics Puthoff is theorizing.

The work of UnLAB and FPT can thus be assessed as two distinct, applied research vectors derived from Puthoff's foundational theories. Chase is pursuing a quantum-level, nanostructure-based approach, while Banduric is pursuing a classical-level, materials-based approach to manipulating the same underlying field effects described by EED.

5.3 Identified Indicators of Interest

- **Indicator 1: The Quantcomm LLC Pivot.** The shift in patent assignment from the established research entity EarthTech International to the new, commercially-oriented Quantcomm LLC is the most significant corporate anomaly identified. This action signals a potential transition of Puthoff's EED-based communications technology from pure research to a commercial or compartmentalized development phase, likely involving new partners (e.g., co-inventor Christopher Eusebi) and external investment.
- **Indicator 2: The EED Socialization Campaign.** The sudden emergence of "Extended Electrodynamics" as a central topic in multiple, high-profile, government-adjacent forums in late 2024 is a strong indicator of a coordinated campaign to socialize and legitimize a new theoretical paradigm. This suggests the ecosystem has reached a consensus on a unifying theory and is now seeking broader support and funding for its experimental validation.
- **Indicator 3: The NSF/NASA Nexus.** The direct involvement of the National Science Foundation (funding both UnLAB and FPT) and NASA (sponsoring the EED podcast) confirms that this "gray track" ecosystem is not operating in isolation. It is being actively cultivated and at least partially funded by mainstream U.S. government science and technology organizations, which are using their resources and platforms to foster its growth.

5.4 Actionable Intelligence Gaps

1. **Corporate Structure and Funding of Quantcomm LLC:** The ownership, leadership, and funding sources for Quantcomm LLC are unknown. Identifying the principals of this entity and its financial backing is critical to understanding the future trajectory and potential dual-use applications of Puthoff's EED communications technology.
2. **Nature of the Puthoff/Chase/Banduric Collaboration:** The precise nature of the

collaboration among these three principals is unclear. Determining if they are formally sharing data, if there is a lead entity, and clarifying the role of government program managers (e.g., at NSF, NASA, or DARPA) in facilitating this interaction is a key objective.

3. **Experimental Validation of EED:** While the theory of EED is being socialized, the current status of any experimental work at EarthTech, UnLAB, or FPT to validate its principles remains unknown in open sources. Identifying any experimental progress, prototype development, or unique testing requirements is a primary technical intelligence objective.

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