

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TIKTOK INC.,
Petitioner,

v.

NTECH PROPERTIES, INC.,
Patent Owner.

Case No. IPR2024-01342

U.S. Patent No. 8,886,753

**REPLY DECLARATION OF KEVIN ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NOS. 8,886,753**

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EXHIBIT LIST

Ex.	Description
EX1001	U.S. Patent No. 8,886,753 (“’753 patent”)
EX1002	Declaration of Kevin Almeroth, Ph.D.
EX1003	U.S. Pat. No. 8,555,318 (“Whitehead”)
EX1004	U.S. Pat. Pub. No. 2002/0152117 (“Cristofalo”)
EX1005	U.S. Pat. Pub. No. 2006/0015904 (“Marcus ’904”)
EX1006	U.S. Patent No. 6,177,931
EX1007	Int’l Publ. No. WO 00/40021
EX1008	U.S. Pat. No. 6,032,156 (“Marcus ’156”)
EX1009	Provisional Application for U.S. Pat. No. 8,145,704 (U.S. Prov. Appl. No. 60/934,456)
EX1010	D. Wilkerson, “ACTV hopes to steal print's thunder” (Dec. 8, 2000)
EX1011	Amended Complaint in <i>NTECH Properties, Inc. v. ByteDance Ltd. et al.</i> , No. 2:24-cv-00130 (E.D. Tex.)
EX1012	B. Hammersley, “Audible revolution” (Feb. 11, 2004)
EX1013	U.S. Pat. No. 6,388,714
EX1014	U.S. Pat. No. 7,467,398
EX1015	Verizon, “Verizon Unlocks Full Potential of Fiber-Based FiOS Internet and Video Services With Advanced 100-Mbps Broadband Home Router” (June 28, 2006)
EX1016	Prosecution History for U.S. Pat. No. 8,145,704
EX1017	Prosecution History for U.S. Pat. No. 8,886,753

EX1018	Prosecution History for U.S. Pat. No. 9,215,261
EX1019	Prosecution History for U.S. Pat. No. 9,923,947
EX1020	List of Recent Expert Witness Engagements of Dr. Kevin Almeroth
EX1021	Curriculum Vitae of Dr. Kevin Almeroth
EX1022	Ph.D. R. Gelles-Watnick, “Americans’ Use of Mobile Technology and Home Broadband” (January 31, 2024)
EX1023	NTECH Properties, Inc.’s Infringement Claim Chart for U.S. Patent No. 8,886,753
EX1024	Supplemental Declaration of Kevin Almeroth, Ph.D.
EX1025	INTENTIONALLY OMITTED
EX1026	INTENTIONALLY OMITTED
EX1027	https://www.zdnet.com/article/movie-screen-advertising-reached-438-mln-in-2004/
EX1028	Transcript of Deposition of Dr. Goodrich on September 11, 2025

I, Dr. Kevin Almeroth, declare as follows:

1. In my prior declaration (EX1002), I provided an overview of my background and qualifications, the materials consideration, legal principles, U.S. Patent Nos. 8,886,753 (“the ’753 patent”), and the prior art. I also provided my opinions on the specific grounds of invalidity for the ’753 patent. I hereby incorporate those materials as if fully set forth herein.

2. After I submitted my prior declaration EX1002, the Board issued an Institution Decision (ID) granting review of the ’753 Petition. Subsequently, the Patent Owner (PO) submitted its Patent Owner Response (POR), along with a declaration from Dr. Michal Goodrich (EX2014). I have been asked by the Petitioner to assist in evaluating PO’s arguments in the POR and Dr. Michael Goodrich’s declaration (EX2014) in support of the POR.

I. CLAIM CONSTRUCTION¹

3. PO and Dr. Goodrich proposes three narrowing constructions without any basis in lexicography, disclaimer, or disavowal. EX1028, 43:13-18. Because these proposed constructions do not reflect the plain meaning, in my opinion, they should be rejected.

¹ The parties also agree that the “media programming” is provided by the “publisher.” EX1028, 35:22-36:11.

A. “feed”

4. Dr. Goodrich opines that the term “feed” should be construed as “one or more associated media elements.” Dr. Goodrich and PO here seek to add a requirement that “at the time the feed is selected from the list, the feed must include at least one media element to be ‘concatenated with’ additional media elements selected and ordered based on user information.” POR 6. But nothing in the record requires a feed to contain specific media elements at all times or that it stops being a “feed” whenever it does not contain specific media elements.

5. In my opinion, Dr. Goodrich and PO’s proposed construction is not supported by the claim language. For example, Claim 1 requires “delivering by an aggregator to a client a list of feeds,” receiving “a selection of one of the feeds,” and then “including media elements selected, ordered, and concatenated with the feed.” Nothing in the claim language requires that the “selected feed” must consist of an already-selected set of media elements.

6. In addition, even assuming that the “feed” must contain “media elements” at the time it is concatenated with other “media elements,” that still does not require that it *always* contain specific media elements. Dr. Goodrich’s antecedent basis argument (EX2014, ¶37) is irrelevant because nothing in the claims prohibits the “feed” from being selected first and then populated with specific media elements

later but still prior to being concatenated with other “media elements.” It is still the same “feed” at both points in time.

7. The specification also supports the plain meaning. The specification describes feeds as corresponding to “sources of media content,” such as an “XML feed.” EX1001, 6:9-21. In my opinion, a POSITA would understand that such feeds are **containers** for media but do not necessarily include media at all times.

8. Moreover, the ’753 patent explicitly discloses that a feed can be **first** selected by a user and only **then** generated, which confirms that there is no requirement that the claimed “feed” contain specific media elements at the time of selection:

EPG 410 serves the function of an aggregator. EPG 410 may cause **a list of feeds to be displayed** on television 415, and the user may be able to navigate and **select the list of feeds** employing user input 420.... The set top box then provides the selection and user information to ... cable provider 430 or satellite provider 440. Cable provider 430 and satellite provider 440 each have processors and software suitable for **generating feeds** based on existing channels and/or additional stored media elements; the **selected feed is then provided** as a customized channel to the user.

EX1001, 5:11-22.

9. Finally, Dr. Goodrich went further arguing that a “channel” is not a feed. EX2014, ¶¶57-62. I disagree. Dr. Goodrich’s position is not consistent with the ’753 patent, which frequently describes media feeds as channels. EX1001, 5:21-22, 7:13-15, 9:56-63, 11:39-40. Indeed, Dr. Goodrich’s construction will result in an absurd outcome where selection of a channel at night (if there is no scheduled programming) does not qualify as a selection of a “feed,” but selection of that **same** channel during the day (when there is scheduled programming) does. *See* EX1028, 28:18-22, 53:9-25.

10. Dr. Goodrich’s citation to dictionaries does not help. For example, Exhibit 2017 addresses that a feed is a “general term for electronic distribution of information” but does not negate the fact that a “feed” can be selected before it is received in this manner. Exhibit 2018, which actually describes a “feed” as “dynamic” implies the contrary, that feeds are independent of the content included in that feed and can be dynamically assembled after selection. Similarly, Exhibit 2019 is silent on whether selecting the feed can happen before the feed “appears.”

II. GROUND 1: WHITEHEAD

A. “Selection of One of the Feeds” (Claim 1)

11. I disagree with Dr. Goodrich and PO’s argument here for both Media Feed Mapping 1 and 2, because these arguments rely on an overly narrow claim construction of “feed.” POR 11-14; EX2014, ¶¶55-64. If a “feed” need not contain

specific “media elements” at the time of the user selection, Whitehead undisputedly meets this limitation. As Dr. Goodrich himself admits while addressing Whitehead in the context of the co-pending IPR against the related ’704 patent, “[a] POSITA would understand that for a user to be able to select a custom media channel from a menu, then some form of custom media channel *must* exist *prior* to the content information device 110 receiving the menu.” IPR2024-1340, EX2014 ¶¶87; *see also* EX1028, 52:1-13. Indeed, Whitehead discloses that its user selection of a custom media channel matches embodiments in the ’704 patent specification. *See, e.g.*, EX1001, 6:22-27 (describing claimed selection as a “channel selection”).

12. Dr. Goodrich’s only argument applicable under the plain meaning is that, the user actually selects a “characteristic” of the channel instead of selection of the channel. EX2014, ¶¶42-45, 58. Yet Whitehead clearly teaches that the user sends a “request to access *the* channel 170,” and that the user may select custom media channels 170 “according to names or identifier” assigned to them. EX1003, 11:43-45, 16:5-9. Thus, in my opinion, it is not simply a “characteristic” that is selected, but a specific custom media channel itself. Indeed, the ’704 patent’s exemplary feeds (e.g., “Classic Rock”) are equally if not more so just “characteristic[s].” EX1001, Fig. 5.

13. Moreover, Whitehead discloses this limitation even under Dr. Goodrich and PO’s improperly narrow construction:

1. Media Feed Mapping 1

14. Dr. Goodrich characterizes Whitehead as disclosing two separate embodiments for custom media channels: real-time channels and pre-generated channels. EX2014, ¶¶56-62. With respect to pre-generated channels, Whitehead teaches that the user can select and update a profile 160 corresponding to a particular custom media channel 170 that has been pre-generated. EX1003, 10:33-39, 16:38-43. Updating a profile 160 on profile server 165 causes mixing server 130 to “receive a message from profile server 165 that a custom channel profile 160 has been created or revised” and “to invoke a process for creating **or modifying** one or more custom media channels 170 based on profile 160 provided in the message.” EX1003, 11:40-43, 11:59-63, 12:14-17. In fact, even PO acknowledges in the co-pending IPR against the related ’704 patent that Whitehead discloses “updated pre-generated custom media channels” where “mixing server 130 ... queries media content to determine whether new media content 155 can be included in the custom media channel.” IPR2024-1340 POR, 23-24. Thus, in my opinion, even under Dr. Goodrich and PO’s incorrect construction of “feed,” Whitehead still discloses selection of a pre-generated custom media channel (*feed*) and **then** concatenating that channel with new media content (*media elements selected*) based on updated user profile information.

2. Media Feed Mapping 2

15. Regarding Media Feed Mapping 2, Dr. Goodrich does not dispute that Whitehead's content sources 135 are existing "feeds." EX2014, ¶¶62-64. Instead, Dr. Goodrich argues that Whitehead's user selects a custom media channel rather than a particular content source. *Id.* I disagree with Dr. Goodrich's opinion. Dr. Goodrich himself does not dispute that Whitehead discloses "a scenario where there is a custom media channel 170 that has a one-to-one mapping with a profile of 160, and that profile 160 identifies one content source 135 providing media content." EX1028, 20:5-10; EX1003, 6:10-12, 7:5-18 (profile identifies "**one** or more content sources" in addition to other user data such as "a username"), EX1003, 10:51-54 (profile for custom media channel "may indicate an interest in receiving content broadcast from a particular content source 135" in addition to other "interest[s]"). Therefore, by selecting the custom media channel 170, a user also selects the specific content source 135 ("**feed**") corresponding to that channel.

B. "First Feed" in a "First Time Period" and "Second Feed" in a "Second Time Period" (Claim 5)

16. **First**, as to anticipation, Dr. Goodrich argues that that, Whitehead provides only a single custom media channel instead of furnishing two different feeds at different time periods. EX2014, ¶¶65-71. I disagree with Dr. Goodrich's opinion, as Dr. Goodrich's argument is undercut by PO's position that a "feed" can be just "one ... media element[]"(POR, 4) and its allegation that claim 5 does not

require anything beyond what is recited in claim 1 (EX1023, 52 (arguing “[t]his claim element is met for the same reasons discussed above regarding claim 1”)).² Thus, under PO’s own interpretation, Whitehead discloses streaming and playing (i.e., “*furnish[ing]*”) first advertising content 140 (“*first feed*”) at a first point in time (e.g., blue box annotated in the custom media channel of Fig. 2 shown below) followed by second media content 155 (“*second feed*”) at a second point in time (e.g., green box annotated in the custom media channel of Fig. 2 shown below):

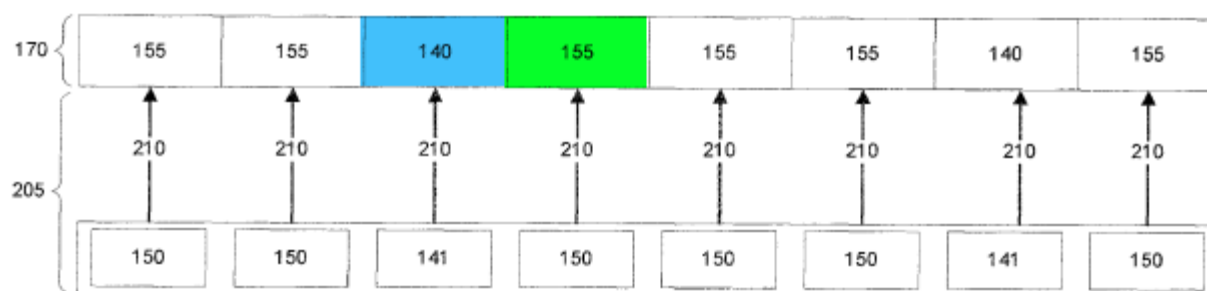


FIG. 2

17. The provision of the first advertising content 140 (“*first feed*”), like all of custom media channel 170, is triggered by a user selection of that custom media channel and thus “*responsive to the selection of one of the feeds.*” The second media content 155 (“*second feed*”) also includes part of the resultant custom media channel 170 and thus “*compris[es] the individual customized media programming.*” That is

² Both of these are positions PO took for the first time only **after** the Petition was already filed.

all claim 13 requires under PO's interpretations. Importantly, PO and Dr. Goodrich provide no explanation why a single custom media channel 170 cannot contain both a first and second feed, such as advertising content 140 and media content 155, respectively, under PO's construction of "feed."

18. **Second**, as to obviousness, Dr. Goodrich challenges Petitioner's motivation to combine disclosure already found in Whitehead. EX2014, ¶¶70-71. Importantly, however, Dr. Goodrich does not dispute that Whitehead discloses advertisements that are not targeted based on user profile information (i.e., "*first feed*") or the claimed "*media programming responsive to the user information.*" Pet. 46-47; EX1002 ¶138.³ Dr. Goodrich instead only challenges Petitioner's motivation to modify Whitehead to play the predetermined advertisement before the custom media programming. EX2014, ¶¶70-71. But Dr. Goodrich does not dispute that Whitehead's teaching reveals a delay between a user selection of a custom media channel and playback of the resultant media programming. EX1002 ¶138. Moreover, in my opinion, a POSITA would be aware of the practice of playing advertisements before media programming, including movie theaters playing advertisements before a movie. EX1027.

³ Accordingly, Petitioner does not rely on "common sense" to supply any "missing limitations." POR, 17.

19. Indeed, PO's only particularized challenge to Petitioner's obviousness analysis is the allegation that Petitioner did not estimate the length of such delay and whether a predetermined advertisement could fill that time. POR 16-17. Dr. Goodrich does not provide opinion on this. But having the user just wait during any noticeable amount of delay is undesirable, and in my opinion, a POSITA would be motivated to fill any such delay with advertising to generate revenue (even if that means further delaying playback). It is my opinion that any amount of delay is undesirable, and a POSITA would be motivated to fill in any such delay with advertisement to at least generate advertising revenue, even if that means extending the delay to fit the full advertisement. Moreover, that delay is a factor of the user's Internet speed, the number of users accessing the servers, the bandwidth of the servers, and whether the user is receiving the custom media channel as a single custom-generated file, as disclosed in Whitehead. Where an eight clip custom media channel (EX1003, Fig. 2) is "instantiated as a single multimedia file" (EX1003, 8:53-59) encoding and transferring that file may require up to four minutes. Specifically, in 2006, the year when Whitehead was filed, an average broadband connection is about 2 Mbps (though likely less, see <https://www.ooma.com/blog/average-us-internet-speeds-over-time/>), assuming an average size of a video was 10 MB, and 6 "media content 150" video clips (I am not counting the two advertising content clips to compensate for the fact that the

predetermined advertisement would also need to be transferred) would be around 60 MB. The time required to download 60 MB would be around 240 seconds: $60 \text{ MB} \times 8 \text{ (1 byte = 8 bits)} / 2 \text{ Mbps} = 240 \text{ seconds}$. And this is a conservative assumption, since it does not account for additional delay from retrieving profile 160, querying a database to identify the appropriate content, retrieving that content from another database, encoding that content into a single file, and then accounting for packet overhead, TCP congestion control, queuing delays, etc. But even if my conservative estimate is off by almost a full order of magnitude, this would leave ample time to first transmit and play a predetermined 30-second advertisement (not to mention a 15-second advertisement).

III. GROUND 2: WHITEHEAD AND MARCUS '904

20. PO does not dispute any of the limitations addressed in Ground 2.

IV. GROUND 3: CRISTOFALO AND MARCUS '904

A. “Publisher” (Claim 1)

21. Dr. Goodrich opines that Cristofalo in view of Marcus '904 does not disclose a “publisher” as required in claim 1. EX2014, ¶¶ 74-86. I disagree.

22. In my opinion, Cristofalo’s “transmitting system” is a “publisher” as required in claim 1 because the “transmitting system” provides a “programming” feed consisting of content and advertisements to a “receiving system.” EX1004, ¶¶ ¶ 20, 25, 29, 32, 46, 49. The transmitting system also selects and sends a group of “media objects” to the receiving system, and the receiving system then picks one of

those media objects based on user profile information to further customize the advertisement by, e.g., modifying a car advertisement to depict different cars in different geographic areas. EX1004 ¶¶ 20, 35-36, 40; POR, 20-21. In Petitioner’s combination for claim 1, Cristofalo’s transmitting system’s customization is extended to include selecting custom advertisements for concatenating with content, as taught by Marcus ’904, rather than just sending the same advertisements to everybody. EX1002 ¶¶ 123-27.

23. Dr. Goodrich opines that Cristofalo’s transmitting system cannot be the recited “publisher” because Cristofalo’s receiving system “finalizes its final media programming provided to the user.” EX2014, ¶¶ 76-81. I disagree. Dr. Goodrich’s argument rests on the unstated assumption that a “publisher” somehow must be construed to generate and provide the “final” media programming. However, there is no “final” requirement (i.e., that this media programming cannot be further customized prior to playback) anywhere in the claims or the specification. As the Board has already warned, “[w]e encourage the parties to raise all claim construction issues in sections of their briefs devoted to that purpose during trial,” because “[c]laim construction arguments buried in merits arguments tend to be conclusory and unpersuasive.” ID, 7 n.6.

24. Cristofalo repeatedly discloses that its transmitting system also customizes media content. EX1004, ¶¶ 9 (“user-profiling information is utilized by

the receiving system *and/or the transmitting system* to determine which of a plurality of media objects”); 35 (“a national television advertisement for a Ford Mustang® might include a media object directing a San Diego network affiliate’s *transmitting system 102* to select from a national data feed media objects (i.e., a data packet) depicting a convertible in San Diego”); 40 (“the media object creators 108 and *transmitting system 102* suitably create media objects for predetermined profiles”), 47 (“The present invention enables content creators to specify from which soft drink can the actor drinks by using media objects which are *selected by the transmitting system* or the receiving system based upon a user profile.”), 49 (“The selection of the media objects may be accomplished...*in conjunction with the transmitting side.*”), 54 (“when a bi-directional communications link is provided between the transmitting side and the receiving system, media objects might actually *be modified by the transmitting side* prior to transmission”). In the combination presented in the Petition, the transmitting side’s customization merely extends to selecting media elements for concatenating with a user-selected media stream (e.g., a channel selected in a program guide), as taught by Marcus ’904. Nothing more is required.

25. Dr. Goodrich also argues that the Petition did not provide a sufficient rationale to combine Cristofalo’s “transmitting system” and Marcus ’904’s “receiver.” EX2014, ¶¶83-86. I disagree with Dr. Goodrich. Here, the Petition

proposed combining Cristofalo's transmitting system with Marcus's algorithm, not its physical receiver. And the I have further explained that Marcus '904 provides detail regarding how content can be targeted to users. EX1002 ¶¶122-27. For example, whereas Cristofalo focuses on "selection of the media objects ... by the receiving system, in conjunction with the user profiling system, and/or in conjunction with the transmitting side" (EX1005, ¶¶40, 49), Marcus '904 explains how to use user information to select media content that better targets the user. *See, e.g.,* EX1005 ¶¶37-40, FIG. 4 (describing in detail a "process of using user data and media tags to assemble [customized] programming for a user" utilizing data such as "demographic information (e.g., age, sex, race, location, interests, etc.)," data indicating "a desired level of advertising content," data indicating "a desired look and feel for the programming," and data indicating "desired content for the programming"). Thus, as asserted in the Petition, the combination would "lead[] to better customization of media programming" and "unlock new revenue sources" given its improved advertisement targeting system over Cristofalo. EX1002 ¶122. Even though Cristofalo provides targeted advertisements to users (*see* ID, 32), it does so only by modifying portions of an advertisement via "media objects." In contrast, Marcus '904 describes in detail how to targeting advertisement by caching and switching between streams of programming (EX1005, ¶¶251-52, 641), tagging media contents for efficiently targeting advertisement to users (EX1005 ¶¶32-40),

reserving extra channels or spaces in channels for more targeted advertisement insertions (EX1005, ¶142), and splitting the same advertisement into sub-groups for more accurate targeting (EX1005, ¶312). In my opinion, the proposed combination therefore captures the best of both worlds by first allowing the Cristofalo's transmitting system to select a particular advertisement based on user profile information, as taught by Marcus '904, and then allowing Cristofalo's receiving system to further customize that advertisement using media objects, as taught by Cristofalo.

B. “Collecting by the Publisher from the Aggregator Client Information ... Compris[ing] User Information” (Claim 1)

26. Dr. Goodrich opines that Cristofalo does not disclose this limitation because receiving system 104 does not send any user profile information to transmitting system 102, and instead, user profiling system 106 sends this information to the transmitting system. EX2014, ¶¶87-89. I disagree. The claim language does not preclude a scenario where Cristofalo's transmitting system from collecting the user information from the receiving system **via the profiling system**. In its institution decision, the Board found that “Patent Owner appears to rely on an overly restrictive interpretation of ‘collecting by the publisher from the aggregator client information,’ which would require the publisher to directly collect client information from the aggregator” and that “as written, the claim does not appear to require direct collection without any intermediary devices.” ID, 12. I agree with the

Board's reasoning. In my opinion, plain language of claim 1 does not preclude Cristofalo's transmitting system ("***publisher***") from collecting user information from Cristofalo's receiving system ("***aggregator***") via an "intermediary device," Cristofalo's "user profiling system 106."

27. Further, Cristofalo discloses that "the user profiling system 106, which is preferably co-located with the transmitting system 102." In my opinion, "co-located" here means the profiling system 106 and transmitting system 102 are physically located in the same device. Therefore, a POSITA would understand that when the user profiling system 106 is co-located with the transmitting system 102, it would be the same device, whether directly or indirectly by the transmitting system 102 (i.e., the publisher), that is collecting user information from the receiving system 104.

C. "First Feed" in a "First Time Period" and "Second Feed" in a "Second Time Period" (Claim 5)

28. Dr. Goodrich opines that Cristofalo in view of Marcus '904 does not disclose claim 5. EX2014, ¶¶ 90-91. I disagree.

29. Dr. Goodrich opines that, in Cristofalo, "the selected programming and "other media elements" (advertisements) are part of the same user-specific final media programming provided to the client" and that Cristofalo thus allegedly lacks a separate "'first feed' that is 'furnished during a first time period.'" EX2014, ¶¶ 90-91. However, both Dr. Goodrich and PO agree that a "feed" can be just "one ...

media element[.]” POR, 4; EX1028, 42:7-11 (admitting that “a single clip” can constitute “a media stream”); EX1004 (indicating that a “feed” is the same as a “media stream”: “communication from a user may permit a user to select between one or more streams, feeds or channels of media programming”). Therefore, in my opinion, even under Dr. Goodrich’s and PO’s interpretation, Cristofalo discloses a “first feed” and a “second feed.”

V. CONCLUSION

30. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

* * *

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on the information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

U.S. Patent No. 8,886,753
Decl. of Dr. Kevin Almeroth

Respectfully submitted,

September 19, 2024

A handwritten signature in blue ink that reads "Kevin C Almeroth". The signature is written in a cursive, flowing style.

Kevin C. Almeroth, Ph.D.