

Ronald D. Lee
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601 Massachusetts Ave., NW
Washington, DC 20001-3743

July 11, 2016

VIA EXPRESS MAIL

Josephine Sibley
NASA Headquarters
300 E Street, SW
Room 5Q16
Washington, DC 20546

Re: Expedited Request for Records Under the Freedom of Information Act

Dear Ms. Sibley:

On behalf of Dr. Nathan Myhrvold, we hereby request records pursuant to the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552 et seq., and corresponding regulations, including 14 C.F.R. part 1206.

1. Recipients of Request

This request is directed towards any office, subdivision, or personnel who may have responsive records, and in particular the following offices, subdivisions, and personnel who are familiar with the subject area of this request and will be able to identify and locate responsive records with a reasonable amount of effort:

- a. Office of the Administrator
- b. Office of the Deputy Administrator
- c. Office of the Chief of Staff
- d. Office of the Chief Scientist
- e. Office of the Chief Technologist
- f. Office of Communications
- g. Science Directorate

2. Detailed Description of the Records Sought

We request production of the following records:

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- a. All documents¹ related to Nathan Myhrvold, his research, and his inquiries to NASA's NEOWISE team and to other NASA officials. Subject matter of such documents may include:
 - i. Nathan Myhrvold's claims regarding Kirchhoff's law;
 - ii. Nathan Myhrvold's inquiries leading up to the attached paper Comparing NEO Search Telescopes; and
 - iii. Nathan Myhrvold's inquiries about NEOWISE.
- b. All documents referencing the following articles (as a courtesy, we have attached a compilation of these articles to this request):
 - i. Kenneth Chang, How Big Are Those Killer Asteroids? A Critic Says NASA Doesn't Know, New York Times (May 23, 2016), <http://www.nytimes.com/2016/05/24/science/asteroids-nathan-myhrvold-nasa.html>;
 - ii. Eric Hand, Billionaire technologist accuses NASA asteroid mission of bad statistics, Science (May 23, 2016), <http://www.sciencemag.org/news/2016/05/billionaire-technologist-accuses-nasa-asteroid-mission-bad-statistics>;
 - iii. Lee Billings, For Asteroid-Hunting Astronomers, Nathan Myhrvold Says the Sky Is Falling, Scientific American (May 27, 2016), <http://www.scientificamerican.com/article/for-asteroid-hunting-astronomers-nathan-myhrvold-says-the-sky-is-falling1/>;
 - iv. Rachel Feltman, That study critiquing NASA's 'bad science' on asteroids is pretty bad science, Washington

¹ The term "documents" as used in this request refers to all responsive records in possession of the agency, including correspondence (both paper and electronic mail), memoranda, notes, work papers, research, and any other electronic or paper records containing responsive information.

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Post (May 25, 2016),

<https://www.washingtonpost.com/news/speaking-of-science/wp/2016/05/25/that-study-critiquing-nasas-bad-science-on-asteroids-is-pretty-bad-science/>; and

- v. Alan Boyle, Tech titan Nathan Myhrvold stirs up debate over search for killer asteroids, GeekWire (May 23, 2016), <http://www.geekwire.com/2016/nathan-myhrvold-stirs-debate-search-killer-asteroids/>.
- c. All documents discussing the accuracy of NEOWISE diameter estimates, including:
 - i. How the estimates were calculated;
 - ii. How the estimates should be described;
 - iii. Different approaches to calculation; and
 - iv. Policies or decisions regarding the accuracy and how NEOWISE-related papers or presentations should refer to them.
- d. All documents regarding comments about or criticisms of NEOWISE data analysis by other researchers.
- e. All documents regarding policies or procedures regarding how to handle inquiries from external researchers about NEOWISE data or results.

These requests seek records stored in any form, whether recorded in writing, electronically, or by any other means.

3. Request for Expedited Processing

Pursuant to 14 C.F.R. §§ 1206.304; 1206.400, we hereby request expedited processing of this request. Under 14 C.F.R. § 1206.400(c)(2), Dr. Myhrvold requests the above referenced records under “[c]ircumstances in which there is an urgency to inform the public about an actual or alleged Federal Government activity[.]” In particular, the Federal Government is considering a proposal to fund NEOCam, a new

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Near Earth Object (“NEO”) program that is led by Amy Mainzer, who is also the principal investigator on the NEOWISE project.² The records Dr. Myhrvold seeks concern the scientific validity of the NEOWISE findings, the scientific approach of that effort, and the relevance of the NEOWISE findings to NEO funding decisions. Accordingly, the records sought above are vital to ensuring a full, frank, and open public discussion regarding the Federal Government’s substantial investment in a new NEO program, and such discussion must occur expeditiously as NASA intends to make final selections in two months (September 2016) regarding continued development of the NEOCam program.³ Thus, the requested information is “the type of information which has particular value that will be lost if not disseminated quickly” as there is very little time for the public to fully and accurately evaluate the science on which this future NEO program would be based. *See* 14 C.F.R. § 1206.400(c)(2)(ii).

Furthermore, this FOIA request is made by a person primarily engaged in disseminating information. While “[i]n **most** situations, a person primarily engaged in disseminating information will be a representative of the news media[.]” Dr. Myhrvold is not a member of the press. However, Dr. Myhrvold writes for the public extensively on scientific matters of public interest and disseminates his work widely.⁴ As demonstrated by his substantial and successful efforts to disseminate publicly available information on the NEOWISE program to date,⁵ Dr. Myhrvold has sufficiently established that he qualifies as “a person primarily engaged in disseminating information.” *See* 14 C.F.R. § 1206.400(c)(2)(i).

² *See* NASA, NASA Selects Investigations for Future Key Plan (Oct. 1, 2015), <http://discovery.nasa.gov/news/index.cfm?ID=1148> (“NEOCAM would discover 10 times more near-Earth objects than all NEOs discovered to date. It would also begin to characterize them. Amy Mainzer of JPL is the principal investigator, and JPL would manage the project.”)

³ *See id.*

⁴ *See, e.g.,* <http://www.nathanmyhrvold.com/>; <http://www.nathanmyhrvold.com/index.php/essays-columns> (listing thirty-two publications in major press outlets, including The Wall Street Journal, The Washington Post, Slate, Bloomberg View, Scientific American, Time, and Fortune).

⁵ *See* Nathan Myhrvold, A Simple Guide to NEOWISE Data Problems (May 25, 2016), <https://medium.com/@nathanmyhrvold/a-simple-guide-to-neowise-data-problems-a93f41e3bdb4#.btfdnbjds>; *see also* the list of major press articles detailing Dr. Myhrvold’s criticism of the NEOWISE project in section 2.b of this letter.

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Dr. Myhrvold certifies that this explanation of a compelling need for this information is true and correct to the best of the requester's knowledge and belief.

4. Administrative and Procedural Matters

FOIA and NASA's regulations provide that if some parts of records containing the requested information are exempt from mandatory disclosure, then non-exempt materials shall be disclosed after the exempt material has been segregated. *See* 5 U.S.C. § 552(b); 14 C.F.R. § 1206.307(c). Therefore, if you determine some portion of a record that is responsive to this request is exempt, please provide a copy of the remainder of the record. Additionally, if you determine that some or all of the requested records are exempt from disclosure, please provide a list or index of the records withheld, the exemption invoked, an estimation of the volume of records denied, and the reasons why a discretionary release of the records would not be appropriate under FOIA. *See* 14 C.F.R. 1206.307(a)-(b).

We are willing to reimburse up to \$1,000 of search and duplication fees related to this request without delay. If the costs to produce the requested records will exceed this amount, please contact us. Dr. Myhrvold may be willing to reimburse additional costs if necessary to obtain all responsive records. This request is not for commercial use but is made for scientific and public awareness purposes. Therefore, we believe Dr. Myhrvold falls into fee category "[a]ll other requesters." *See* 14 C.F.R. § 1206.507(c)(4).

In accordance with Section 7 of the OPEN Government Act of 2007, Pub. L. No. 110-175, please provide the individualized tracking number associated with this request should the request take longer than ten days to process, and kindly also provide the telephone number or internet URL that requesters can use to inquire about the status of their requests.

Thank you for your consideration of this request. Please direct all future responses to my attention at:

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If you need to reach someone by telephone about this request, you also may contact my associate, Tom McSorley, at 202.942.5668.

Sincerely,

A handwritten signature in black ink that reads "Ronald D. Lee". The signature is written in a cursive style with a large initial 'R' and 'L'.

Ronald D. Lee

Attachments

- A. Dr. Nathan Myhrvold, Comparing NEO Search Telescopes, Astronomical Society of the Pacific (March 15, 2016).
- B. Collection of Press Articles Regarding Dr. Myhrvold's Criticism of NEOWISE

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Dennis B. Mahon
JPL FOIA Public Liaison Officer
NASA Management Office
4800 Oak Grove Drive
M/S: 180-200K
Pasadena, CA 91109-8001

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- a. The NEOWISE team, including team members:
 - i. Amy Mainzer (JPL),
 - ii. Joseph Masiero (JPL),
 - iii. Lindley Johnson (NASA),
 - iv. Thomas Statler (NASA),
 - v. All other NEOWISE team members and affiliated personnel.

- b. Office of the Inspector General - JPL

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- c. The Office of Director Michael Watkins
- d. The Office of Deputy Director Larry James
- e. The Office of Chief Scientist Daniel McCleese
- f. Astronomy, Physics and Space Technology Directorate - JPL
- g. Engineering and Science Directorate - JPL
- h. The JPL division of the NASA Management Office

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- d. All documents regarding comments about or criticisms of NEOWISE data analysis by other researchers.

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- e. All documents regarding policies or procedures regarding how to handle inquiries from external researchers about NEOWISE data or results.
- f. All documents related to papers or analyses regarding WISE/NEOWISE done by the NEOWISE team (*see, e.g.*, the following papers: Mainzer/TMC,² Mainzer/NEO,³ Masiero/MB⁴), including:
 - i. Model fitting and details thereof;
 - ii. Any documents including least squares fitting, chi-square fitting or other model fitting approaches;
 - iii. Any documents on least squares algorithms (which could also be called least squares minimization or optimization). For example, the Levenberg-Marquardt algorithm or variations thereof;
 - iv. Linear adjustment to the W3 band as described in Mainzer/TMC, Mainzer/NEO, Masiero/MB;

² Mainzer, A., Grav, T., Masiero, J., Bauer, J.M., Wright, E.L., Cutri, R.M., McMillan, R.S., Cohen, M., Ressler, M., Eisenhardt, P.R.M., 2011c. Thermal Model Calibration for Minor Planets Observed With Wide-Field Infrared Survey Explorer/Neowise. *Astrophys. J.* 736, 100. doi:10.1088/0004-637X/736/2/100 (hereinafter, “Mainzer/TMC”).

³ Mainzer, A., Grav, T., Bauer, J.M., Masiero, J.R., McMillan, R.S., Cutri, R.M., Walker, R., Wright, E.L., Eisenhardt, P.R.M., Tholen, D.J., Spahr, T., Jedicke, R., Denneau, L., DeBaun, E., Elsbury, D., Gautier, T., Gomillion, S., Hand, E., Mo, W., Watkins, J., Wilkins, A., Bryngelson, G.L., Del Pino Molina, A., Desai, S., Camus, M.G., Hidalgo, S.L., Konstantopoulos, I., Larsen, J.A., Maleszewski, C., Malkan, M.A., Mauduit, J.-C., Mullan, B.L., Olszewski, E.W., Pforr, J., Saro, A., Scotti, J. V., Wasserman, L.H., 2011b. Neowise Observations of Near-Earth Objects: Preliminary Results. *Astrophys. J.* 743, 156. doi:10.1088/0004-637X/743/2/156 (hereinafter, “Mainzer/NEO”).

⁴ Masiero, J.R., Mainzer, A., Grav, T., Bauer, J.M., Cutri, R.M., Dailey, J., Eisenhardt, P.R.M., McMillan, R.S., Spahr, T.B., Skrutskie, M.F., Tholen, D., Walker, R.G., Wright, E.L., DeBaun, E., Elsbury, D., Gautier IV, T., Gomillion, S., Wilkins, A., 2011. Main Belt Asteroids with WISE/NEOWISE. I. Preliminary Albedos and Diameters. *Astrophys. J.* 741, 68. doi:10.1088/0004-637X/741/2/68 (hereinafter, “Masiero/MB”).

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- v. Changes to per-observation estimated errors due to onset of saturation as described in Mainzer/TMC, Mainzer/NEO, Masiero/MB, and other NEOWISE papers/analyses;
- vi. All documents about the use of diameter estimates from prior radar, stellar occultation or spacecraft flyby in Mainzer/TMC, Mainzer/NEO, Masiero/MB, and other NEOWISE papers/analyses;
- vii. Documents expressing or indicating the rules or procedures for eliminating data from analyses conducted by the NEOWISE team, including any analysis expressed in Mainzer/TMC , Mainzer/NEO, Masiero/MB;
- g. Any and all documents related to NEOWISE analysis of Ryan and Woodward 2010,⁵ or IRAS (Tedesco et al 2002)⁶ (*see, e.g.*, Mainzer/TMC and Mainzer et al 2011⁷).
- h. All correspondence about NEOWISE or any of the above topics to or from:
 - i. Edward Wright (UCLA);
 - ii. Tommy Grav (Planetary Sciences Institute);
 - iii. Timothy Spahr (originally at Minor Planet Center, more recently elsewhere).

⁵ Ryan, E.L., Woodward, C.E., 2010. Rectified asteroid albedos and diameters from IRAS and MSX. *Astron. J.* 140, 933. doi:10.1088/0004-6256/140/4/933

⁶ Tedesco, E.F., Noah, P. V., Noah, M., Price, S.D., 2002b. The Supplemental IRAS Minor Planet Survey. *Astron. J.* 123, 1056-1085. doi:10.1086/338320

⁷ Mainzer et al 2011 (*ApJ* 737, "Thermal model calibration with IRAS) = Mainzer, A., Grav, T., Masiero, J.R., Bauer, J.M., Wright, E.L., Cutri, R.M., Walker, R., McMillan, R.S., 2011d. Thermal Model Calibration for Minor Planets Observed with WISE/NEOWISE: Comparison with Infrared Astronomical Satellite. *Astrophys. J. Lett.* 737, L9. doi:10.1088/2041-8205/737/1/L9

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Furthermore, this FOIA request is made by a person primarily engaged in disseminating information. While “[i]n **most** situations, a person primarily engaged in disseminating information will be a representative of the news media[.]” Dr. Myhrvold is not a member of the press. However, Dr. Myhrvold writes for the public extensively on scientific matters of public interest and disseminates his work widely.¹⁰ As demonstrated

⁸ *See* NASA, NASA Selects Investigations for Future Key Plan (Oct. 1, 2015), <http://discovery.nasa.gov/news/index.cfm?ID=1148> (“NEOCAM would discover 10 times more near-Earth objects than all NEOs discovered to date. It would also begin to characterize them. Amy Mainzer of JPL is the principal investigator, and JPL would manage the project.”)

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by his substantial and successful efforts to disseminate publicly available information on the NEOWISE program to date,¹¹ Dr. Myhrvold has sufficiently established that he qualifies as “a person primarily engaged in disseminating information.” *See* 14 C.F.R. § 1206.400(c)(2)(i).

Dr. Myhrvold certifies that this explanation of a compelling need for this information is true and correct to the best of the requester's knowledge and belief.

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ARNOLD & PORTER LLP

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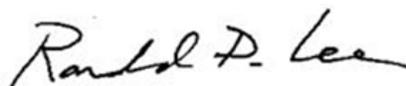
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