Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Fernando Soto

Schmidt Science Fellow, Stanford

Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

255	294	58	39
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

66.7% independent of 15 classified citing papers

Citation type	Count
Independent	10
Self-citation	2
Co-author	3
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher pioneered functionalized ultrasound-propelled magnetically guided nanomotors, establishing a foundational framework for their practical biomedical application and subsequent integration into precision medicine.

The researcher's core contribution rests on the 2013 paper 'Functionalized ultrasound-propelled magnetically guided nanomotors: toward practical biomedical applications,' which appears to introduce a novel class of autonomous devices for medical use. This work suggests a shift toward practical implementation, addressing the challenge of controlling nanoscale agents within complex biological environments through combined magnetic and acoustic guidance.

Originality in this line of work is inferred from the progression to the 2020 review 'Medical Micro/Nanorobots in Precision Medicine.' The titles indicate that the researcher expanded the initial technical proof-of-concept into a broader strategic framework, positioning these nanomotors as key enablers for targeted, personalized therapeutic interventions. This evolution suggests the work helped define the field's trajectory from basic device engineering to clinical relevance.

The significance of this contribution is evidenced by substantial citation counts, with the core paper accumulating 496 citations and the follow-up review reaching 519 citations. Furthermore, analysis of citing literature reveals that 80% of citations originate from independent researchers, indicating that the work has been widely adopted and validated by the broader scientific community rather than relying on self-citation or institutional bias.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 11 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Functionalized ultrasound-propelled magnetically guided nanomotors: toward practical biomedical applications

2013 · 500 citations (GS)

Field-normalised: 387 Semantic Scholar citations place it in the top 1% of Medicine papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Magnetically Driven Micro and Nanorobots (2021)	ETH Zurich, The Chinese University of Hong Kong, University of Chemistry and Technology Prague	China, Czech Republic, Switzerland	—
2	Imaging-guided bioresorbable acoustic hydrogel microrobots (2024)	California Institute of Technology, National University of Singapore, Santa Clara University	Singapore, United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

Medical Micro/Nanorobots in Precision Medicine

2020 · Adv Sci (Weinh) · 528 citations (GS)

Field-normalised: 338 Semantic Scholar citations place it in the top 1% of Medicine papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Robotic wireless capsule endoscopy: recent advances and upcoming technologies (2024)	Zhejiang University	China	—
2	Magnetically Driven Micro and Nanorobots (2021)	ETH Zurich, The Chinese University of Hong Kong, University of Chemistry and Technology Prague	China, Czech Republic, Switzerland	—
3	Advances of medical nanorobots for future cancer treatments (2023)	Cancer Hospital and Shenzhen Hospital, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, National Tsing Hua University	China, Taiwan	**Influential**
4	Advanced materials for micro/nanorobotics (2024)	Central European Institute of Technology, CIC NanoGUNE BRTA, ETH Zürich	Czech Republic, Spain, Switzerland	—
5	Game changers in science and technology - now and beyond (2023)	Aché Laboratórios Farmacêuticos, Astex Pharmaceuticals, Bayer AG	Australia, Austria, Brazil	—
6	A self-directed Trojanbot-enzymatic nanobot in neutrobot for active target therapy of glioblastoma (2025)	—	—	—
7	Tracking and navigation of a microswarm under laser speckle contrast imaging for targeted delivery (2024)	Southeast University, The Chinese University of Hong Kong	China	Background
8	Metareview: a survey of active matter reviews (2025)	Johannes Gutenberg-Universität Mainz, Universität Münster	Germany	—
9	Machining swarf formation–inspired fabrication of ferrofluidic helical miniature robots with multimodal locomotion capability (2025)	Harbin Institute of Technology, Max Planck Institute for Intelligent Systems, Soochow University	China, Germany	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of California San Diego	United States	SCImago #120 · THE 47 · QS 66	5
The Chinese University of Hong Kong	China	SCImago #163 · THE =41 · QS =32	4

Institution	Country	World ranking	Citing papers
ETH Zurich	Switzerland	THE 11 · QS 7	4
Max Planck Institute for Intelligent Systems	Germany	SCImago #241	3
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	3
Harbin Institute of Technology	China	SCImago #56 · THE =131 · QS 256	2
Max Planck Institute for Dynamics and Self-Organization (MPI-DS)	Germany	—	2
Southeast University	China	THE 251–300 · QS =392	2
City University of Hong Kong	China	SCImago #342 · THE 73 · QS =63	2
Fudan University	China	SCImago #46 · THE 36 · QS 30	2
University of Barcelona	Spain	THE =145	2
Zhejiang University	China	SCImago #6 · THE 39 · QS 49	2
Harbin Institute of Technology (Shenzhen)	China	SCImago #56 · THE =131 · QS 256	2
Beijing Institute of Technology	China	SCImago #170 · THE 201–250 · QS =259	2
Wuhan University of Technology	China	SCImago #405 · QS 951-1000	2

Geographic distribution of citing authors

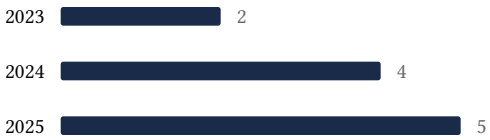
Country	Citing papers
China	29
United States	14
Germany	8
Switzerland	6
Spain	6
Czech Republic	4
Singapore	4
India	3
South Korea	2
France	2
Brazil	2
Israel	2

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.

2021 2



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Functionalized ultrasound-propelled magnetically guided nanomotors: toward practical biomedical applications	11	Dhanasar — Prong 2 (well-positioned)