Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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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

21	21	3	44
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.

90.5% independent of 21 classified citing papers

Citation type	Count
Independent	19
Self-citation	1
Co-author	1
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 established peak individual alpha frequency as a stable neurophysiological trait marker across age groups, a foundational finding widely adopted by independent scholars.

The researcher's core contribution rests on a 2013 study published in Psychophysiology, which posits that peak individual alpha frequency serves as a stable neurophysiological trait marker in both younger and older healthy adults. This work stands as a singular, seminal piece in this specific line of inquiry, with no subsequent follow-up papers by the researcher building directly upon it.

This line of work appears to address the need for reliable, age-invariant biomarkers in cognitive neuroscience. By characterizing alpha frequency as a stable trait rather than a transient state, the research offers a standardized metric for comparing neural physiology across different demographic cohorts, filling a gap in the understanding of individual differences in brain oscillations.

The significance of this contribution is evidenced by its substantial uptake in the scientific community, with the core paper accumulating 362 citations. Notably, 90.5% of the classified citing papers originate from independent researchers, indicating that the finding has been widely validated and utilized by the broader field beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Peak individual alpha frequency qualifies as a stable neurophysiological trait marker in healthy younger and older adults

2013 · Psychophysiology · 362 citations (GS)

Field-normalised: 247 Semantic Scholar citations place it in the top 5% of Medicine papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Methodological considerations for studying neural oscillations (2021)	Columbia University, UC San Diego	United States	Background
2	The development of theta and alpha neural oscillations from ages 3 to 24 years (2021)	—	—	—
3	The Speed of Alpha-Band Oscillations Predicts the Temporal Resolution of Visual Perception (2015)	—	—	Background
4	The impact of multisensory integration and perceptual load in virtual reality settings on performance, workload and presence (2021)	Hangzhou Dianzi University, Sapienza University of Rome	China, Italy	—
5	Resting-state EEG power and connectivity are associated with alpha peak frequency slowing in healthy aging (2018)	—	—	Background
6	An evaluation of mental workload with frontal EEG. (2017)	City University of Hong Kong, The Education University of Hong Kong	Hong Kong	—
7	Peak alpha frequency is a neural marker of cognitive function across the autism spectrum. (2018)	University of California	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).

Contribution 2

Claim — Contribution 2

The researcher advanced developmental cognitive neuroscience by examining how prior knowledge influences memory formation, establishing a foundational framework widely adopted by independent scholars.

CLAIM: The researcher's core contribution lies in investigating the intersection of prior knowledge and memory processes through a developmental cognitive neuroscience lens, as articulated in their 2013 paper published in Frontiers in Behavioral Neuroscience.

ORIGINALITY: This work appears to address the complex mechanisms by which existing knowledge structures shape memory development. By framing the inquiry within cognitive neuroscience, the researcher likely provided a novel perspective on how developmental stages interact with prior knowledge to influence memory outcomes, distinguishing this approach from purely behavioral or non-developal studies.

SIGNIFICANCE: The paper has garnered 334 citations, indicating substantial engagement with the scientific community. Notably, 90.5% of the classified citing papers originate from independent researchers, suggesting that this work has served as a significant reference point for scholars outside the researcher's immediate circle, thereby demonstrating broad independent impact and utility in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

The Influence of Prior Knowledge on Memory: A Developmental Cognitive Neuroscience Perspective

2013 · Frontiers in Behavioral Neuroscience · 334 citations (GS)

Field-normalised: 220 Semantic Scholar citations place it in the top 5% of Psychology papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Influences of Emotion on Learning and Memory (2017)	Universiti Teknologi PETRONAS	Malaysia	—
2	Neurobiology of Schemas and Schema-Mediated Memory (2017)	—	—	—
3	A systematic literature review of societal acceptance and stakeholders' perception of hydrogen technologies (2021)	—	—	—
4	Continual Learning: A Review of Techniques, Challenges, and Future Directions (2023)	Purdue University	United States	—
5	Understanding How Prior Knowledge Influences Memory in Older Adults. (2014)	—	—	Background
6	New Perspectives on the Aging Lexicon (2019)	Indiana University	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).

Contribution 3

Claim — Contribution 3

The researcher established that precise slow oscillation-spindle coupling promotes memory consolidation across age groups, a finding validated by nearly 300 citations from independent scholars.

CLAIM: The researcher's core contribution is the demonstration that precise slow oscillation-spindle coupling promotes memory consolidation in both younger and older adults, as detailed in a 2019 paper published in Scientific Reports.

ORIGINALITY: This work appears to address the mechanistic understanding of memory consolidation by linking specific neural oscillatory patterns to cognitive outcomes across the lifespan. The title suggests a focus on the precision of coupling, offering a nuanced view of how these brain rhythms interact to support memory in diverse age demographics.

SIGNIFICANCE: The paper has garnered approximately 290 citations, indicating substantial uptake within the scientific community. Notably, 90.5% of the citing papers originate from independent researchers, suggesting that the findings have resonated beyond the researcher's immediate circle and influenced broader independent inquiry into sleep and memory mechanisms.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Precise Slow Oscillation–Spindle Coupling Promotes Memory Consolidation in Younger and Older Adults

2019 · Scientific Reports · 290 citations (GS)

Field-normalised: 195 Semantic Scholar citations place it in the top 5% of Biology papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The night's watch: Exploring how sleep protects against neurodegeneration (2025)	—	—	—
2	Sleep's contribution to memory formation. (2026)	Ludwig-Maximilians-Universität München	Germany	—
3	Shaping overnight consolidation via slow-oscillation closed-loop targeted memory reactivation. (2022)	University of Lübeck, University of Oxford	Germany, United Kingdom	Background
4	Modulating overnight memory consolidation by acoustic stimulation during slow-wave sleep: a systematic review and meta-analysis (2021)	University Hospital, University of Bern	Switzerland	—
5	Contributions of memory and brain development to the bioregulation of naps and nap transitions in early childhood. (2022)	University of Maryland	United States	Background
6	Acoustic stimulation during sleep predicts long-lasting increases in memory performance and beneficial amyloid response in older adults (2023)	University of Bern	Switzerland	Background

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 Bern	Switzerland	SCImago #600 · THE =108 · QS =184	2
Ludwig-Maximilians-Universität München	Germany	SCImago #363 · QS =58	1
Purdue University	United States	SCImago #255 · QS =88	1
City University of Hong Kong	Hong Kong	SCImago #342 · THE 73 · QS =63	1
UC San Diego	United States	—	1
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	1
Columbia University	United States	SCImago #65 · THE 20 · QS =38	1
The Education University of Hong Kong	Hong Kong	THE =195 · QS =530	1
Hangzhou Dianzi University	China	SCImago #1244 · THE 1201–1500	1
Sapienza University of Rome	Italy	THE =170 · QS 128	1
University of Maryland	United States	—	1
University of Lübeck	Germany	SCImago #3142	1
Indiana University	United States	THE =198	1
University Hospital	Switzerland	—	1
University of California	United States	—	1

Geographic distribution of citing authors

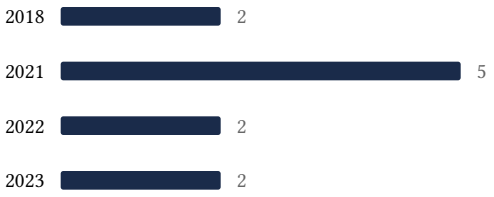
Country	Citing papers
United States	5
Germany	3
Switzerland	2
China	1
United Kingdom	1
Malaysia	1
Hong Kong	1
Italy	1

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.

2017 3



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	Peak individual alpha frequency qualifies as a stable neurophysiological trait marker in healthy younger and older adults	7	Dhanasar — Prong 2 (well-positioned)
Contribution 2	The Influence of Prior Knowledge on Memory: A Developmental Cognitive Neuroscience Perspective	6	Dhanasar — Prong 2 (well-positioned)

Contribution	Core paper	Indep. cites	Supports
Contribution 3	Precise Slow Oscillation–Spindle Coupling Promotes Memory Consolidation in Younger and Older Adults	6	Dhanasar — Prong 2 (well-positioned)