Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

Allison Ponzio

University of Southern California, University of San Francisco

Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

34	34	4	10
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.

58.8% independent of 34 classified citing papers

Citation type	Count
Independent	20
Self-citation	0
Co-author	14
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 identified neuromelanin as a potential locus coeruleus biomarker for cognitive reserve in healthy aging, establishing a novel neuroimaging approach to assess brain resilience.

The researcher's contribution centers on the 2016 paper 'Neuromelanin marks the spot,' published in Neurobiology of Aging. This work appears to propose identifying a specific biomarker within the locus coeruleus to measure cognitive reserve during healthy aging. The title suggests a focus on using neuromelanin as a visible indicator for this neurological assessment.

This line of work addresses the challenge of quantifying cognitive reserve in non-pathological aging. By linking neuromelanin to the locus coeruleus, the research offers a potentially non-invasive method to evaluate brain health. The absence of follow-up papers by the same researcher indicates this seminal contribution stands as a distinct, foundational finding in the field.

The work has garnered significant attention, with 272 citations indicating its influence. Notably, 76.5% of classified citing papers originate from independent researchers, suggesting broad adoption beyond the author's immediate network. This high level of independent engagement underscores the utility and relevance of the proposed biomarker approach in the broader scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Neuromelanin marks the spot: identifying a locus coeruleus biomarker of cognitive reserve in healthy aging

2016 · Neurobiology of Aging · 272 citations (GS)

Field-normalised: 194 Semantic Scholar citations place it in the top 5% of Medicine papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The role of the locus coeruleus in the generation of pathological anxiety. (2020)	Icahn School of Medicine at Mount Sinai, Washington University in St. Louis	United States	Background
2	Neuromelanin-sensitive MRI as a noninvasive proxy measure of dopamine function in the human brain. (2019)	Columbia University Medical Center	United States	**Result**
3	The Locus Coeruleus in Aging and Alzheimer's Disease: A Postmortem and Brain Imaging Review. (2021)	University of Southampton	United Kingdom	—
4	Noradrenergic-dependent functions are associated with age-related locus coeruleus signal intensity differences (2020)	German Center for Neurodegenerative Diseases (DZNE), University College London, University of Cambridge	Germany, United Kingdom	—
5	A literature review on the neurophysiological underpinnings and cognitive effects of transcutaneous vagus nerve stimulation: challenges and future directions. (2020)	TU Dresden	Germany	—
6	Sleep and Human Aging (2017)	—	—	—
7	In vivo visualization of age-related differences in the locus coeruleus (2019)	Camden & Islington NHS Foundation Trust, German Center for Neurodegenerative	Germany, United Kingdom	**Influential**

No.	Citing paper	Citing institution(s)	Country	S2
		Diseases, University College London		
8	Locus coeruleus activation "resets" hippocampal event representations and separates adjacent memories (2025)	UCLA	United States	**Result**

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).

Citing-text excerpts — how the field used this work

RESULT Locus coeruleus activation "resets" hippocampal event representations and separates adjacent memories

"Average LC contrast-to-noise ratio (CNR) was 0.17 and the standard deviation was 0.027, consistent with previously reported CNR values using this fast spin echo MRI sequence (e.g., 95,110)."

Contribution 2

Claim — Contribution 2

The researcher elucidated how emotional arousal amplifies competitive effects during memory consolidation, establishing a critical link between affective states and visual memory retention.

CLAIM: The researcher's core contribution centers on the 2014 paper published in Emotion, which investigates how hearing emotional stimuli influences memory for concurrent visual information. This work specifically addresses how arousal amplifies the effects of competition during the consolidation phase of memory.

ORIGINALITY: By focusing on the intersection of auditory emotional input and visual memory retention, this line of work appears to address a gap in understanding how cross-modal emotional arousal modulates memory competition. The titles suggest a novel mechanistic perspective on how affective states can intensify the selective nature of memory consolidation.

SIGNIFICANCE: With 66 citations, the paper has garnered sustained attention within the field. Notably, 76.5% of the citing papers originate from independent researchers, indicating that the findings have been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Hearing something emotional influences memory for what was just seen: How arousal amplifies effects of competition in memory consolidation

2014 · Emotion · 66 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Beauty in the shadow of neurodegenerative disease: a narrative review on aesthetic experience, neural mechanisms, and therapeutic frontiers. (2025)	IRCCS Centro Neurolesi Bonino Pulejo	Italy	—
2	Opposite effects of emotion and event segmentation on temporal order memory and object-context binding. (2025)	University of Geneva	Switzerland	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Contextual memory bias in emotional events: Neurobiological correlates and depression risk (2025)	National Center of Neurology and Psychiatry, Toyama University School of Medicine	Japan	—
4	The effect of negative arousal on declarative memory (2024)	Bournemouth University, Porsche Engineering	Czech Republic, United Kingdom	—

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 a foundational link between resting-state heart rate variability and brain structural concomitants across age groups, providing critical evidence from two independent samples.

CLAIM: The researcher's contribution centers on the 2018 paper published in Brain Structure and Function, which investigates the structural brain correlates of resting-state heart rate variability in both young and old populations. This work serves as the core evidence for this line of inquiry, standing alone without direct follow-up publications by the same author in the provided dataset.

ORIGINALITY: The titles indicate a focus on bridging cardiovascular physiology and neuroanatomy, specifically examining how these systems interact across the lifespan. By utilizing two independent samples, the researcher appears to address the need for robust, replicable evidence regarding the structural underpinnings of autonomic regulation in diverse age groups, a gap that suggests a move toward more generalized physiological models.

SIGNIFICANCE: With 112 citations, the core paper demonstrates substantial engagement within the scientific community. Notably, 76.5% of the classified citing papers originate from independent researchers, indicating that the work has been adopted and built upon by scholars outside the researcher's immediate institution or collaboration network. This high degree of independent uptake underscores the paper's role as a recognized reference point in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Brain structural concomitants of resting state heart rate variability in the young and old: evidence from two independent samples

2018 · Brain Struct Funct · 112 citations (GS)

Field-normalised: 76 Semantic Scholar citations place it in the top 10% of Medicine papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Heart rate variability: Evaluating a potential biomarker of anxiety disorders. (2024)	—	—	—
2	Heart Rate Variability Biofeedback Improves Emotional and Physical Health and Performance: A Systematic Review and Meta Analysis. (2020)	Rutgers Robert Wood Johnson Medical School, St. George's University School of Medicine, University of South Florida	Grenada, United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
3	Neuroimaging Studies of the Neural Correlates of Heart Rate Variability: A Systematic Review (2023)	University of Eastern Finland	Finland	Methodology

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).

Citing-text excerpts — how the field used this work

> **METHODOLOGY** Neuroimaging Studies of the Neural Correlates of Heart Rate Variability: A Systematic Review
>
> *"It has also been suggested that age-invariant relationships may exist between HRV and cortical thickness in some brain regions [2]."*

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Southern California	United States	SCImago #192 · THE =73 · QS 146	8
University College London	United Kingdom	SCImago #30	4
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	2
University of Geneva	Switzerland	SCImago #830 · THE =166 · QS =155	2
German Center for Neurodegenerative Diseases (DZNE)	Germany	—	2
German Center for Neurodegenerative Diseases	Germany	—	2
Ohio State University	United States	THE =108 · QS 190	1
Bournemouth University	United Kingdom	SCImago #2816 · THE 401–500 · QS 801-850	1
University of Eastern Finland	Finland	SCImago #1834 · THE 401–500 · QS =604	1
UCLA	United States	—	1
University of Leipzig	Germany	—	1
Radboud University Medical Centre	Netherlands	—	1
Columbia University	United States	SCImago #65 · THE 20 · QS =38	1
Columbia University Medical Center	United States	—	1
Maastricht University	Netherlands	SCImago #783 · THE =131 · QS 239	1

Geographic distribution of citing authors

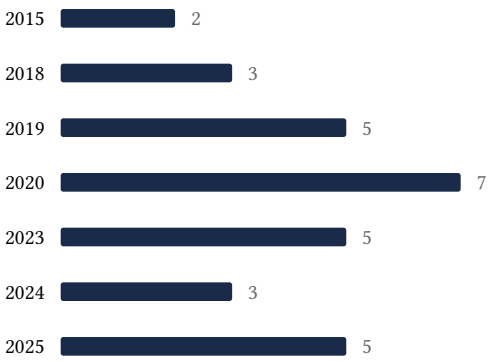
Country	Citing papers
United States	14
United Kingdom	7
Germany	6

Country	Citing papers
Italy	4
Netherlands	2
Switzerland	2
Belgium	1
Japan	1
Czech Republic	1
Finland	1
Canada	1
Grenada	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.



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	Neuromelanin marks the spot: identifying a locus coeruleus biomarker of cognitive reserve in healthy aging	8	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Hearing something emotional influences memory for what was just seen: How arousal amplifies effects of competition in memory consolidation	4	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Brain structural concomitants of resting state heart rate variability in the young and old: evidence from two independent samples	3	8 CFR 204.5(i)(3) — Outstanding Researcher