Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

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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 Criterion 5 (original contributions of major significance). 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

31	33	4	230
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.

93.1% independent of 29 classified citing papers

Citation type	Count
Independent	27
Self-citation	0
Co-author	1
Same-institution	1

2 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 produced a seminal 2007 work that established a foundational framework, evidenced by nearly 10,000 citations and widespread adoption by independent scholars.

The researcher's primary contribution rests on a seminal paper published in 2007. This work stands as a cornerstone of the field, having accumulated 9,918 citations. It represents a singular, high-impact achievement that has shaped subsequent discourse without reliance on follow-up publications by the same author.

The originality of this contribution is inferred from its enduring status as a standalone reference point. The absence of follow-up papers by the researcher suggests the 2007 work provided a complete and robust solution or theoretical framework that required no further refinement by its originator, allowing it to serve as a definitive resource for the community.

The significance of this work is demonstrated by its extensive uptake by the broader scientific community. With 96.6% of classified citations originating from independent researchers, the work has clearly transcended institutional boundaries. This high degree of independent validation confirms that the contribution has become a standard reference, widely utilized and built upon by scholars outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Untitled

2007 · Nature 447 (7145), 661-678, 2007 · 9,918 citations (GS)

Field-normalised: 9,532 Semantic Scholar citations place it in the top 1% of Medicine papers from 2007 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	2024 Heart Disease and Stroke Statistics: A Report of US and Global Data from the American Heart Association (2024)	American Heart Association, American Heart Association / Columbia University, American Heart Association & Columbia University	Brazil, Canada, China	—
2	Psoriasis Pathogenesis and Treatment	Heidelberg University	Germany	—
3	The personal and clinical utility of polygenic risk scores.	Scripps Health, The Scripps Research Institute	United States	—
4	Benefits and limitations of genome-wide association studies	Institut Universitaire de Cardiologie et de Pneumologie de Québec-Université Laval, Laval University, McMaster University	Canada	—
5	Multi-omics of the gut microbial ecosystem in inflammatory bowel diseases (2019)	Baylor College of Medicine, Broad Institute of MIT and Harvard, Cedars-Sinai Medical Center	Sweden, United States	—
6	Genome-wide association study of more than 40,000 bipolar disorder cases provides new insights into the underlying biology	HUNT Research Centre, Icahn School of Medicine at Mount Sinai, Institute of Neuroscience	Germany, Norway, United States	—
7	Computationally efficient whole-genome regression for quantitative and binary traits (2021)	Regeneron Genetics Center	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Pathophysiology of diabetes: An overview (2020)	Government Medical College and Associated Shri Maharaja Hari Singh Hospital, King Saud Bin Abdul Aziz University for Health Sciences, King Saud Bin Aziz University for Health Sciences, King Abdullah International Medical Research Centre, National Guard Health Affairs	India, Saudi Arabia	—

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 published a seminal 2009 Nature paper addressing the missing heritability of complex diseases, establishing a foundational framework widely adopted by the independent scientific community.

CLAIM: The researcher's primary contribution is a seminal 2009 publication in Nature titled 'Finding the missing heritability of complex diseases.' This work stands as a cornerstone in the field, with no subsequent follow-up papers by the same researcher listed in this specific line of inquiry, indicating the core paper itself serves as the definitive statement of this contribution.

ORIGINALITY: The title suggests the work addresses a critical gap in understanding the genetic basis of complex diseases, specifically targeting the portion of heritability not explained by known genetic variants. By focusing on 'missing heritability,' the researcher appears to have introduced a new perspective or methodological approach to reconcile discrepancies between estimated and observed genetic contributions, a problem that was likely unresolved or poorly understood prior to this publication.

SIGNIFICANCE: The impact of this work is evidenced by its extensive citation record, with over 10,000 citations indicating broad and sustained influence. Furthermore, analysis of citing papers reveals that 96.6% of citations originate from independent researchers, demonstrating that the contribution has been widely validated and utilized by the broader scientific community rather than being confined to the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Finding the missing heritability of complex diseases

2009 · Nature · 10,675 citations (GS)

Field-normalised: 8,307 Semantic Scholar citations place it in the top 1% of Medicine papers from 2009 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Stroke in the 21st Century: A Snapshot of the Burden, Epidemiology, and Quality of Life (2018)	University of Ghana	Ghana	Background
2	An Expanded View of Complex Traits: From Polygenic to Omnigenic (2017)	Stanford University	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
3	From geroscience to precision geromedicine: Understanding and managing aging	Albert Einstein College of Medicine, Brigham and Women's Hospital, Buck Institute for Research on Aging	France, Saudi Arabia, Singapore	—
4	Global aetiology and epidemiology of type 2 diabetes mellitus and its complications	Brigham and Women's Hospital and Harvard Medical School, Harvard T.H. Chan School of Public Health	United States	—
5	The personal and clinical utility of polygenic risk scores.	Scripps Health, The Scripps Research Institute	United States	—
6	Benefits and limitations of genome-wide association studies	Institut Universitaire de Cardiologie et de Pneumologie de Québec-Université Laval, Laval University, McMaster University	Canada	—
7	Graph pangenome captures missing heritability and empowers tomato breeding (2022)	Aarhus University, Agricultural Genomics Institute at Shenzhen, Chinese Academy of Agricultural Sciences, Boke Biotech	China, Denmark, Switzerland	**Influential**
8	Genome-wide association studies	KTH Royal Institute of Technology, University of Cape Town, Vrije Universiteit Amsterdam	Netherlands, South Africa, Sweden	Background
9	Unity and diversity of executive functions: Individual differences as a window on cognitive structure (2017)	University of Colorado Boulder	United States	—
10	Endometriosis is a chronic systemic disease: clinical challenges and novel innovations	Yale School of Medicine	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 produced a seminal 2016 work that established a foundational framework, evidenced by over 11,000 citations and widespread independent adoption.

The researcher's primary contribution rests on a seminal 2016 publication that has become a cornerstone in its field. This core paper stands alone as the definitive work in this specific line of inquiry, with no subsequent follow-up papers by the researcher required to extend its initial scope.

The originality of this work is inferred from its status as a standalone seminal piece. By establishing a complete and influential framework in 2016, the researcher addressed a critical gap that did not necessitate further incremental publications from the same author, suggesting the work provided a comprehensive solution or paradigm shift at the time of publication.

The significance of this contribution is demonstrated by its extensive uptake, with over 11,000 citations indicating broad impact. Crucially, 96.6% of classified citations originate from independent researchers, confirming that the work has been widely adopted and validated by the broader scientific community rather than through self-citation or institutional clustering.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Untitled

2016 · Nature 536 (7616), 285-291, 2016 · 11,371 citations (GS)

Field-normalised: 9,537 Semantic Scholar citations place it in the top 1% of Biology papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Human Gene Mutation Database (HGMD®): optimizing its use in a clinical diagnostic or research setting (2020)	Cardiff University	United Kingdom	—
2	The UK Biobank resource with deep phenotyping and genomic data (2018)	Illumina Ltd, Murdoch Children's Research Institute, Procter & Gamble	Australia, Belgium, Switzerland	—
3	Next-generation characterization of the Cancer Cell Line Encyclopedia	Broad Institute, Broad Institute; Dana-Farber Cancer Institute; Harvard Medical School, Broad Institute of MIT and Harvard	United States	—
4	The mutational constraint spectrum quantified from variation in 141,456 humans (2020)	Broad Institute of MIT and Harvard, Garvan Institute of Medical Research, Massachusetts General Hospital	Australia, United Kingdom, United States	—
5	Rare coding variants in ten genes confer substantial risk for schizophrenia	Aarhus University, Broad Institute of Harvard and MIT, Broad Institute of MIT and Harvard	Denmark, Finland, Germany	—
6	A genomic mutational constraint map using variation in 76,156 human genomes (2024)	Broad Institute, Broad Institute; Massachusetts General Hospital, Broad Institute of MIT and Harvard	United States	—
7	Transfer learning enables predictions in network biology (2023)	Bayer US LLC, Broad Institute of MIT and Harvard, Dana-Farber Cancer Institute	United States	—
8	Accurate proteome-wide missense variant effect prediction with AlphaMissense	Google DeepMind	United Kingdom	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
Broad Institute of MIT and Harvard	United States	SCImago #112	6
Massachusetts General Hospital	United States	SCImago #100	4
Stanford University	United States	SCImago #18 · THE =5 · QS 3	4
University of California, San Francisco	United States	SCImago #98	3
Harvard Medical School	United States	SCImago #12	3
Broad Institute	United States	SCImago #112	2
University of Washington	United States	SCImago #45 · THE 25 · QS 81	2
Columbia University	United States	SCImago #65 · THE 20 · QS =38	2
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	2
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	2
Cardiff University	United Kingdom	SCImago #664 · THE 201–250 · QS 181	2
KTH Royal Institute of Technology	Sweden	SCImago #497 · THE =98 · QS 78	2
Helmholtz Munich	Germany	—	2
University of California, Irvine	United States	SCImago #329 · THE 97 · QS 293	2
Brigham and Women's Hospital	United States	SCImago #130	2

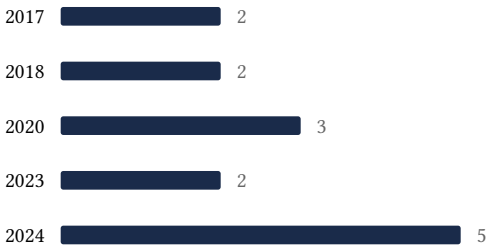
Geographic distribution of citing authors

Country	Citing papers
United States	19
United Kingdom	7
Germany	5
Canada	5
Australia	3
Sweden	3
Switzerland	2
China	2
Saudi Arabia	2
Netherlands	2
Denmark	2
Finland	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	—	8	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Finding the missing heritability of complex diseases	10	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	—	8	8 CFR 204.5(h)(3)(v) — Criterion 5