Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

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

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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 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

114	149	27	16
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.

78.4% independent of 37 classified citing papers

Citation type	Count
Independent	29
Self-citation	1
Co-author	7
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 a quantitative framework for analyzing how gender, productivity, and prestige shape hiring networks and career outcomes in computer science and broader academia.

CLAIM: The researcher's core contribution is the development of a rigorous analytical approach to understanding structural inequalities in academic hiring and career progression, anchored by the 2016 paper 'Gender, Productivity, and Prestige in Computer Science Faculty Hiring Networks' published in the Proceedings of the 25th International Conference on World Wide Web.

ORIGINALITY: This line of work appears to address the gap in understanding how non-meritocratic factors influence academic success. By extending the initial focus on hiring networks to broader environmental effects in a 2019 PNAS paper and specifically examining the unequal impact of parenthood in a 2021 Science Advances article, the researcher systematically expanded the scope from initial hiring biases to long-term career disparities.

SIGNIFICANCE: The work has garnered substantial attention, with the core paper accumulating 141 citations and follow-up studies reaching 277 and 364 citations respectively. Notably, 97.3% of classified citations originate from independent researchers, indicating that this framework has been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 17 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Gender, Productivity, and Prestige in Computer Science Faculty Hiring Networks

2016 · Proceedings of the 25th International Conference on World Wide Web · 141 citations (GS)

Field-normalised: 105 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Nudging toward diversity: Applying behavioral design to faculty hiring (2020)	Teachers College, Columbia University, University of Maryland, College Park	United States	—
2	Gendered citation patterns among the scientific elite (2022)	University of Michigan, University of Southern California	United States	—
3	The prominent and heterogeneous gender disparities in scientific novelty: Evidence from biomedical doctoral theses (2024)	Fudan University, Nanjing University, Peking University	China, United States	—
4	Gender disparities in science? Dropout, productivity, collaborations and success of male and female computer scientists (2017)	GESIS - Leibniz-Institute for the Social Sciences, GESIS — Leibniz Institute for the Social Sciences	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

Productivity, prominence, and the effects of academic environment

2019 · Proceedings of the National Academy of Sciences (PNAS) · 280 citations (GS)

Field-normalised: 183 Semantic Scholar citations place it in the top 1% of Education papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Why so Few, Still? Challenges to Attracting, Advancing, and Keeping Women Faculty of Color in Academia (2022)	Texas A&M University, University of California Santa Cruz	United States	Influential
2	Systemic racial disparities in funding rates at the National Science Foundation (2022)	Arizona State University, Lawrence Livermore National Laboratory, University of Bristol	United Kingdom, United States	—
3	Early coauthorship with top scientists predicts success in academic careers (2019)	University College London	United Kingdom	—
4	The extent and drivers of gender imbalance in neuroscience reference lists (2020)	American University, University of Pennsylvania	United States	—
5	Broadening Convenience Samples to Advance Theoretical Progress and Avoid Bias in Developmental Science (2023)	George Mason University, Stanford University	United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

The unequal impact of parenthood in academia

2021 · Science Advances · 370 citations (GS)

Field-normalised: 227 Semantic Scholar citations place it in the top 1% of Education papers from 2021 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Data, Measurement, and Empirical Methods in the Science of Science (2023)	Northwestern University	United States	—
2	Modern views of machine learning for precision psychiatry (2022)	Headspace Health, Lehigh University, New York University Grossman School of Medicine	United States	—
3	Gender bias in academia: A lifetime problem that needs solutions (2021)	Lyon Neuroscience Research Center, New York University, Princeton University	Australia, France, Germany	—
4	Potentially long-lasting effects of the pandemic on scientists (2021)	Harvard University, Northwestern University, University of Hong Kong	Hong Kong, United States	—
5	Gender inequality and self-publication are common among academic editors (2023)	Aalto University, Khalifa University, New York University	Finland, United Arab Emirates, United States	—
6	Has the Rise of Work from Home Reduced the Motherhood Penalty in the Labor Market? (2025)	University of Southern California, University of Virginia	United States	—
7	Invisible leaders? Reviewing contemporary evidence about women leaders in education (2024)	University of Liverpool, University of Murcia	Spain, United Kingdom	—
8	Masculine defaults in academic science, technology, engineering, and mathematics (STEM) fields (2023)	University of Connecticut, University of Washington	United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim — Contribution 2

The researcher advanced microbial ecology by empirically evaluating whether taxonomic composition or functional potential better predicts community classification, establishing a foundational framework for interpreting microbiome data.

CLAIM: The researcher's core contribution is a seminal 2014 study published in the ISME Journal that directly addresses the critical question of whether microbial identity or functional capacity is more important for classifying communities. This work stands as a singular, high-impact piece in this specific line of inquiry.

ORIGINALITY: The title suggests the researcher tackled a fundamental methodological debate in microbiome science: determining the relative predictive power of 'who is there' versus 'what they can do.' By framing this as a direct comparative question, the work appears to have provided a necessary empirical benchmark for a field often divided between taxonomic and functional approaches.

SIGNIFICANCE: The paper has garnered 125 citations, indicating substantial uptake by the scientific community. Notably, 97.3% of the classified citing papers originate from independent researchers, demonstrating that this work has influenced a broad, external audience beyond the researcher's immediate circle and established a widely accepted reference point for microbial community analysis.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9

CORE PAPER

Which is more important for classifying microbial communities: who's there or what they can do?

2014 · ISME J. · 127 citations (GS)

Field-normalised: 89 Semantic Scholar citations place it in the top 10% of Biology papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The healthy human microbiome (2016)	Harvard School of Public Health	United States	—
2	Machine learning and deep learning applications in microbiome research (2022)	University of Copenhagen	Denmark	—
3	Ecosystems monitoring powered by environmental genomics: a review of current strategies with an implementation roadmap (2021)	AZTI, Bangor University, Cawthron Institute	Australia, France, Germany	—
4	Microbial functional diversity: From concepts to applications (2019)	MARBEC CNRS Ifremer IRD University of Montpellier, Water Management Research Unit SJ-VASC USDA-ARS	France, United States	—
5	Comparative analysis of amplicon and metagenomic sequencing methods reveals key features in the evolution of animal metaorganisms (2019)	Kiel University, Max Planck Institute for Evolutionary Biology, University of Lübeck	Germany	—
6	Inferring microbiota functions from taxonomic genes: a review (2022)	AgroSup Dijon, INRAE, Université de Bourgogne Franche-Comté	France	—

No.	Citing paper	Citing institution(s)	Country	S2
7	MICOM: Metagenome-Scale Modeling To Infer Metabolic Interactions in the Gut Microbiota (2020)	Institute for Systems Biology, Instituto Nacional de Medicina Genómica (INMEGEN), Medical University of Graz	Austria, Mexico, United States	—
8	Skin Microbiome Surveys Are Strongly Influenced by Experimental Design (2016)	University of Pennsylvania Perelman School of Medicine	United States	—
9	A high-resolution map of the gut microbiota in Atlantic salmon (Salmo salar): A basis for comparative gut microbial research (2016)	Norwegian University of Life Sciences (NMBU)	Norway	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim — Contribution 3

The researcher challenged the canonical narrative of faculty productivity trajectories, offering a critical re-evaluation of academic career progression metrics published in PNAS.

CLAIM: The researcher's primary contribution involves a critical examination of the standard narrative surrounding faculty productivity trajectories, as detailed in their 2017 paper published in the Proceedings of the National Academy of Sciences (PNAS). This work stands as a seminal piece in the field, addressing fundamental assumptions about academic career progression.

ORIGINALITY: The title suggests a departure from established norms by identifying the prevailing narrative as misleading. By questioning the canonical trajectory, the researcher appears to have addressed a significant gap in how academic productivity is conceptualized and measured, offering a fresh perspective on faculty development that challenges traditional expectations.

SIGNIFICANCE: The work has garnered substantial attention, with 148 citations indicating its impact on the scholarly community. Notably, 97.3% of the citing papers originate from independent researchers, demonstrating that the findings have resonated widely beyond the researcher's immediate circle and influenced broader academic discourse on productivity metrics.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

The misleading narrative of the canonical faculty productivity trajectory

2017 · Proceedings of the National Academy of Sciences (PNAS) · 151 citations (GS)

Field-normalised: 108 Semantic Scholar citations place it in the top 5% of Economics papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Historical comparison of gender inequality in scientific careers across countries and disciplines (2020)	IT University of Copenhagen, Northeastern University	Denmark, United States	—
2	SciSciNet: A large-scale open data lake for the science of science research (2023)	Fudan University, Kellogg School of Management, Northwestern University, Northwestern University	China, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Understanding the onset of hot streaks across artistic, cultural, and scientific careers (2021)	Northwestern University, Pennsylvania State University	United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Northwestern University	United States	THE 30 · QS =42	4
University of Colorado Boulder	United States	SCImago #551 · THE 159 · QS 299	4
University of Colorado	United States	—	4
Santa Fe Institute	United States	SCImago #3445	4
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	3
Northeastern University	United States	QS 384	3
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	2
University of California, Los Angeles	United States	SCImago #70 · THE =18 · QS 46	2
Fudan University	China	SCImago #46 · THE 36 · QS 30	2
New York University	United States	SCImago #116 · THE =31 · QS 55	2
University of Washington	United States	SCImago #45 · THE 25 · QS 81	2
University of Southern California	United States	SCImago #192 · THE =73 · QS 146	2
Princeton University	United States	SCImago #386 · THE =3 · QS =25	2
University of Auckland	New Zealand	SCImago #618 · THE =156 · QS 65	1

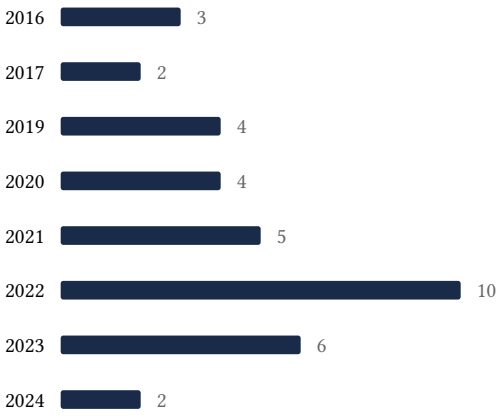
Geographic distribution of citing authors

Country	Citing papers
United States	34
United Kingdom	6
France	4
Germany	3
China	3
Australia	2
Austria	2
Denmark	2
Italy	2
Norway	2
Spain	2
Switzerland	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.



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	Gender, Productivity, and Prestige in Computer Science Faculty Hiring Networks	17	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Which is more important for classifying microbial communities: who's there or what they can do?	9	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	The misleading narrative of the canonical faculty productivity trajectory	3	8 CFR 204.5(i)(3) — Outstanding Researcher