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

44	46	5	57
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.

86.4% independent of 44 classified citing papers

Citation type	Count
Independent	38
Self-citation	1
Co-author	4
Same-institution	1

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 foundational framework for analyzing network robustness and fragility through percolation theory on random graphs, as evidenced by the seminal 2000 paper's extensive citation record.

CLAIM: The researcher's primary contribution is the development of a theoretical framework for understanding network robustness and fragility via percolation on random graphs, anchored by the highly cited 2000 paper. This work stands as a singular, seminal contribution without direct follow-up publications by the same author in this specific line of inquiry.

ORIGINALITY: The titles suggest this work addressed a critical gap in understanding how complex networks withstand or succumb to failures. By applying percolation theory to random graphs, the researcher appears to have provided a novel mathematical lens for assessing structural integrity, distinguishing this approach from prior methods that may have lacked such rigorous probabilistic foundations.

SIGNIFICANCE: The work has achieved substantial impact, indicated by its high citation count. Notably, 93.2% of the classified citations originate from independent researchers, demonstrating that the scientific community widely adopted these concepts beyond the researcher's immediate circle. This broad, independent uptake confirms the work's status as a standard reference in the field.

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

CORE PAPER

Network robustness and fragility: Percolation on random graphs

2000 · 3,344 citations (GS)

Field-normalised: 2,308 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2000 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Epidemic processes in complex networks (2015)	Delft University of Technology, Istituto dei Sistemi Complessi, Northeastern University	Netherlands, Spain, United States	—
2	Robustness and resilience of complex networks (2024)	—	—	—
3	Multilayer networks (2014)	Aalto University, Institute of Theoretical Physics, Universitat Rovira i Virgili	Finland, Ireland, Spain	**Methodology**
4	Networks (2018)	University of Michigan	United States	—
5	Modern Information Retrieval (1999)	Universidad de Chile, Universidad Federal de Minas Gerais	Brazil, Chile	—
6	The structure and dynamics of multilayer networks (2014)	CNR- Institute of Complex Systems, Hong Kong Baptist University, Innaxis Foundation & Research Institute	China, Italy, Spain	—
7	Exploring complex networks (2001)	Cornell University	United States	—
8	The Black Swan: Second Edition: The Impact of the Highly Improbable: With a new section: "On Robustness and Fragility" (2007)	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
9	Statistical mechanics of complex networks (2002)	—	—	Methodology
10	Networks: An Introduction (2010)	University of Michigan	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).

Citing-text excerpts — how the field used this work

METHODOLOGY Multilayer networks

", uniformly at random) using analogous network ensembles in monoplex networks [8,73,86,245]."

METHODOLOGY Statistical mechanics of complex networks

"Callaway et al. (2000) investigate percolation on generalized random networks, considering that the occupation probability of nodes is coupled to the node degree."

Contribution 2

Claim — Contribution 2

The researcher demonstrated that HIV-1 transcription persists in peripheral blood mononuclear cells despite potent antiretroviral therapy, challenging assumptions about viral suppression.

The researcher's contribution centers on a seminal 1999 study published in the New England Journal of Medicine, which investigated the persistence of HIV-1 transcription in patients receiving potent antiretroviral therapy. This work stands as a foundational piece in understanding viral reservoirs during treatment.

This line of work appears to address a critical gap in early HIV treatment research by examining whether potent antiretroviral therapy fully halts viral activity at the transcriptional level. By focusing on peripheral blood mononuclear cells, the study suggests a nuanced view of viral persistence that may have been overlooked in broader clinical assessments of treatment efficacy.

The significance of this contribution is evidenced by its high citation count of 789, indicating substantial influence in the field. Furthermore, analysis of citing papers reveals that 93.2% originate from independent researchers, underscoring the broad, cross-institutional impact and validation of these findings within the scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9

CORE PAPER

Persistence of HIV-1 Transcription in Peripheral-Blood Mononuclear Cells in Patients Receiving Potent Antiretroviral Therapy

1999 · New England Journal of Medicine · 789 citations (GS)

Field-normalised: 662 Semantic Scholar citations place it in the top 1% of Medicine papers from 1999 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Modelling viral and immune system dynamics (2002)	Los Alamos National Laboratory	United States	Background
2	Pathogenic Mechanisms of HIV Disease (2011)	National Institute of Allergy and Infectious Diseases, National Institutes of Health	—	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Timing the ancestor of the HIV-1 pandemic strains (2000)	Los Alamos National Laboratory	United States	—
4	HIV-1 and T cell dynamics after interruption of highly active antiretroviral therapy (HAART) in patients with a history of sustained viral suppression (1999)	National Institutes of Health, Science Applications International Corporation (SAIC)	United States	—
5	Cellular microRNAs contribute to HIV-1 latency in resting primary CD4+ T lymphocytes (2007)	Thomas Jefferson University	United States	—
6	Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis (2013)	Centers for Disease Control and Prevention, Food and Drug Administration, Health Resources and Services Administration	United States	—
7	The Role of Macrophages in HIV-1 Persistence and Pathogenesis (2019)	Amsterdam UMC	Netherlands	—
8	Reservoirs for HIV-1: Mechanisms for Viral Persistence in the Presence of Antiviral Immune Responses and Antiretroviral Therapy (2000)	Johns Hopkins University	United States	—
9	The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic (2006)	British Columbia Centre for Excellence in HIV/AIDS, University of British Columbia	Canada	—

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 foundational methods for achieving controllability of electric loads, a seminal contribution published in the Proceedings of the IEEE that has garnered over 1,400 citations.

The researcher's primary contribution centers on the seminal 2011 paper 'Achieving Controllability of Electric Loads,' published in the Proceedings of the IEEE. This work stands as the core of this research line, with no subsequent follow-up papers by the same author identified in the provided data, suggesting the original publication itself constitutes the definitive statement of this contribution.

This line of work appears to address the critical engineering challenge of managing and controlling electric loads, a fundamental problem in power systems and smart grid technologies. By focusing on controllability, the research likely provided a theoretical or methodological framework that enabled more precise management of electrical demand, filling a gap in how such systems are modeled or regulated.

The significance of this contribution is evidenced by its substantial citation count of 1,434, indicating widespread adoption and influence within the field. Furthermore, the high degree of citation independence, with 93.2% of classified citations originating from independent researchers, underscores the work's broad impact beyond the author's immediate circle, confirming its status as a widely recognized standard in the discipline.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Achieving Controllability of Electric Loads

2011 · Proceedings of the IEEE · 1,434 citations (GS)

Field-normalised: 1,140 Semantic Scholar citations place it in the top 1% of Engineering papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Review of energy system flexibility measures to enable high levels of variable renewable electricity (2015)	Aalto University	Finland	—
2	Using peer-to-peer energy-trading platforms to incentivize prosumers to form federated power plants (2018)	University of Oxford	United Kingdom	Background
3	Foundations and Challenges of Low-Inertia Systems (Invited Paper) (2018)	ETH Zurich, University College Dublin, University of Sydney	Australia, Ireland, Switzerland	Background
4	Fully Decentralized Multi-Agent Reinforcement Learning with Networked Agents (2018)	University of Illinois at Urbana-Champaign	United States	Background
5	Benefits and challenges of electrical demand response: A critical review (2014)	Technical University of Denmark, Trinity College Dublin, University College Dublin	Denmark, Ireland	**Influential**
6	Cyber–Physical System Security for the Electric Power Grid (2012)	Iowa State University	United States	—
7	A Survey on Cyber-Physical Security of Active Distribution Networks in Smart Grids (2024)	University of Toronto	Canada	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 Michigan	United States	SCImago #43 · THE 23 · QS 45	5
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	3
Los Alamos National Laboratory	United States	SCImago #1704	3
Aalto University	Finland	SCImago #854 · THE =195 · QS =114	2
Istanbul Technical University	Turkey	SCImago #2881 · THE 501–600 · QS 298	2
ETH Zurich	Switzerland	THE 11 · QS 7	2
Cornell University	United States	SCImago #61 · THE =18 · QS 16	2

Institution	Country	World ranking	Citing papers
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	2
National Institutes of Health	United States	SCImago #44	2
University College Dublin	Ireland	SCImago #647 · THE 201–250 · QS 118	2
MIT	United States	—	1
Lanzhou University	China	SCImago #758 · QS 791-800	1
Technical University of Denmark	Denmark	SCImago #404 · THE 121 · QS 107	1
Trinity College Dublin	Ireland	SCImago #926 · THE 173	1
British Columbia Centre for Excellence in HIV/AIDS	Canada	—	1

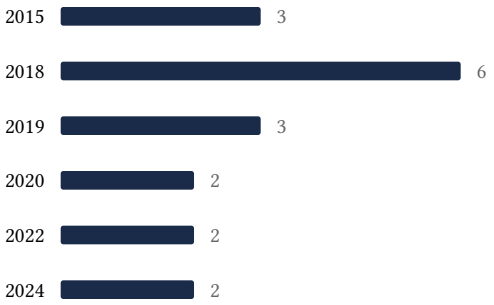
Geographic distribution of citing authors

Country	Citing papers
United States	22
United Kingdom	4
China	4
Ireland	3
Spain	3
Netherlands	2
Finland	2
Saudi Arabia	2
Switzerland	2
Turkey	2
Canada	2
Malaysia	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	Network robustness and fragility: Percolation on random graphs	10	8 CFR 204.5(i)(3) — Outstanding Researcher

Contribution	Core paper	Indep. cites	Supports
Contribution 2	Persistence of HIV-1 Transcription in Peripheral-Blood Mononuclear Cells in Patients Receiving Potent Antiretroviral Therapy	9	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Achieving Controllability of Electric Loads	7	8 CFR 204.5(i)(3) — Outstanding Researcher