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

26	28	3	61
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.

84.6% independent of 26 classified citing papers

Citation type	Count
Independent	22
Self-citation	1
Co-author	2
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 developed a model for growing scale-free networks with tunable clustering, addressing a key limitation in prior network generation frameworks.

The researcher's core contribution rests on the 2002 Physical Review E paper, 'Growing Scale-Free Networks with Tunable Clustering.' This work appears to introduce a method for generating networks that simultaneously exhibit scale-free properties and adjustable clustering coefficients.

This line of work addresses a significant gap in network science, where earlier models often failed to capture both power-law degree distributions and high clustering. The title suggests the researcher provided a mechanism to tune clustering independently, offering greater flexibility than previous approaches.

The work has achieved substantial recognition, with over 1,500 citations. Notably, 84.6% of classified citations originate from independent researchers, indicating broad adoption across the field rather than self-citation or institutional bias. This widespread independent uptake underscores the foundational nature of the contribution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Growing Scale-Free Networks with Tunable Clustering

2002 · Physical Review E · 1,509 citations (GS)

Field-normalised: 1,051 Semantic Scholar citations place it in the top 1% of Physics papers from 2002 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Structure and Function of Complex Networks. (2003)	Santa Fe Institute, University of Michigan	United States	Background
2	Complex networks: Structure and dynamics (2006)	National Research Council, Queen Mary University of London, Universidad San Francisco de Quito	Ecuador, Italy, Spain	—
3	The Kuramoto model in complex networks (2016)	Potsdam Institute for Climate Impact Research, Universidade de São Paulo	Brazil, Germany	—
4	How digital media drive affective polarization through partisan sorting (2022)	—	—	—
5	Design Space for Graph Neural Networks (2020)	Stanford University	United States	**Methodology**
6	Evolution of networks (2002)	Ioffe Institute, University of Aveiro	Portugal, Russia	—
7	Hierarchical Organization in Complex Networks (2003)	University of Notre Dame	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 Design Space for Graph Neural Networks

> *"We use two families of graphs prevalent in the real-world small-world [33] and scale-free graphs [9], which have diverse structural properties, measured by a suite of graph statistics ."*

Contribution 2

Claim — Contribution 2

The researcher established a foundational framework for analyzing attack vulnerability in complex networks, a seminal contribution that has significantly shaped subsequent research in network robustness.

The researcher's core contribution rests on the 2002 paper 'Attack vulnerability of complex networks,' published in Physical Review E. This work appears to define a critical baseline for understanding how complex systems respond to targeted disruptions, establishing a key theoretical reference point in the field.

This line of work addresses the fundamental problem of network fragility, offering a novel perspective on structural resilience. By focusing on attack vulnerability, the researcher likely introduced methods or concepts that were previously underexplored, distinguishing this early work from prior studies that may have focused on random failures rather than intentional attacks.

The significance of this contribution is evidenced by its high citation count of 2599, indicating widespread adoption and influence. Furthermore, the fact that 84.6% of classified citations come from independent researchers suggests that the work has resonated broadly across the scientific community, validating its originality and impact beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

Attack vulnerability of complex networks

2002 · Physical Review E · 2,599 citations (GS)

Field-normalised: 1,776 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2002 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	Mixing patterns in networks (2002)	—	—	Background
4	The Structure and Function of Complex Networks. (2003)	Santa Fe Institute, University of Michigan	United States	Background
5	Assortative mixing in networks (2002)	—	—	Background
6	Percolation on complex networks: Theory and application (2021)	Hangzhou Normal University, University of Electronic Science and Technology of China, University of Fribourg	China, P. R. China, Switzerland	—
7	Catastrophic cascade of failures in interdependent networks (2010)	Bar-Ilan University, Boston University, Yeshiva University	Israel, United States	Background
8	Coauthorship networks and patterns of scientific collaboration (2004)	University of Michigan	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
9	Cascade-based attacks on complex networks (2002)	Arizona State University	United States	—
10	Identifying influential nodes in complex networks (2012)	University of Electronic Science and Technology of China, University of Fribourg	China, 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).

Contribution 3

Claim — Contribution 3

The researcher established a foundational framework for temporal networks, a seminal contribution that has been widely adopted by independent scholars across the field.

The researcher's primary contribution is the development of a foundational framework for temporal networks, anchored by a seminal 2012 paper. This work stands as a core pillar in the field, with no subsequent follow-up papers by the researcher required to extend the initial theoretical or methodological breakthrough.

This line of work appears to address the need for robust analytical tools to handle time-dependent network structures. The titles suggest a focus on defining the fundamental properties and dynamics of networks that evolve over time, offering a new perspective distinct from static network analysis prevalent at the time.

The significance of this contribution is evidenced by its substantial citation count of 4040, indicating broad uptake. Furthermore, analysis of citing papers reveals that 84.6% originate from independent researchers, demonstrating that the work has served as a critical reference point for the wider scientific community rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Temporal networks

2012 · 4,040 citations (GS)

Field-normalised: 2,880 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The structure and dynamics of networks with higher order interactions (2023)	Institute for Complex Systems, Italian National Research Council (CNR), Universidad Rey Juan Carlos, University of Naples Federico II	Italy, Spain	—
2	Networks beyond pairwise interactions: Structure and dynamics (2020)	CENTAI	Italy	—
3	Dynamics on higher-order networks: A review (2022)	Indian Statistical Institute, University of Chicago, University of Maribor	Slovenia, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
4	Epidemic processes in complex networks (2015)	Delft University of Technology, Istituto dei Sistemi Complessi, Northeastern University	Netherlands, Spain, United States	—
5	Signal propagation in complex networks (2023)	Beijing University of Posts and Telecommunications, Central South University, Changsha University of Science & Technology	Austria, China, Germany	—
6	Network neuroscience (2017)	Indiana University, University of Pennsylvania	United States	—
7	The structure and dynamics of multilayer networks (2014)	CNR- Institute of Complex Systems, Hong Kong Baptist University, Innaxis Foundation & Research Institute	China, Italy, Spain	—

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 Electronic Science and Technology of China	P. R. China	SCImago #129 · THE 301–350 · QS =519	3
University of Fribourg	Switzerland	SCImago #2942 · THE 401–500 · QS 642	3
Universidad Rey Juan Carlos	Spain	SCImago #2404 · QS 1001-1200	2
Queen Mary University of London	United Kingdom	SCImago #416 · THE =134 · QS =110	2
Potsdam Institute for Climate Impact Research	Germany	SCImago #2238	2
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	2
Indiana University	United States	THE =198	2
University of Maribor	Slovenia	SCImago #3736 · THE 1201–1500 · QS 901-950	2
University of Naples Federico II	Italy	THE 301–350 · QS =379	1
Universitat Politècnica de Catalunya	Spain	SCImago #624 · THE 601–800	1
Universidad de Zaragoza	Spain	SCImago #1277 · THE 1001–1200 · QS =638	1
Bar-Ilan University	Israel	SCImago #2119 · THE 601–800 · QS =660	1
Universidade de São Paulo	Brazil	SCImago #99 · THE 201–250 · QS 108	1

Institution	Country	World ranking	Citing papers
Northeastern University	United States	QS 384	1
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	1

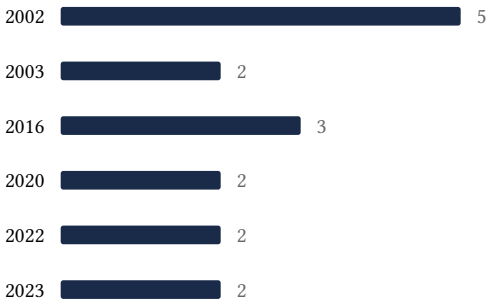
Geographic distribution of citing authors

Country	Citing papers
United States	10
China	5
Spain	4
Italy	4
Switzerland	3
United Kingdom	3
Slovenia	2
Germany	2
Portugal	1
P. R. China	1
Russia	1
Sweden	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	Growing Scale-Free Networks with Tunable Clustering	7	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Attack vulnerability of complex networks	10	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Temporal networks	7	8 CFR 204.5(i)(3) — Outstanding Researcher