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

19	19	5	98
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.

84.2% independent of 19 classified citing papers

Citation type	Count
Independent	16
Self-citation	2
Co-author	0
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 understanding the dynamics and relaxation processes of liquids under confinement, as evidenced by a seminal 1991 paper with over 1,300 citations.

The researcher's primary contribution lies in the seminal 1991 paper titled 'Motions and relaxations of confined liquids,' which serves as the cornerstone of this line of work. This publication addresses the complex behavior of liquid systems when restricted to small spatial dimensions, a topic of significant interest in condensed matter physics and physical chemistry. The titles indicate a focus on the fundamental mechanisms governing how confined liquids move and return to equilibrium, suggesting an effort to clarify the distinct dynamical properties that emerge in such restricted environments compared to bulk liquids. By isolating these motions and relaxations, the work appears to have provided a critical theoretical or experimental basis for interpreting the behavior of fluids in nanopores, thin films, or other confined geometries. The absence of follow-up papers by the same researcher in this specific dataset suggests that this single publication stands as a definitive, self-contained contribution that established key principles without requiring immediate extension by the author in the provided record. The significance of this work is underscored by its substantial citation count of 1,310, indicating that it has become a standard reference in the field. Furthermore, the high degree of citation independence, with 84.2% of classified citations originating from independent researchers, demonstrates that the findings have been widely adopted and validated by the broader scientific community. This broad uptake suggests that the framework provided by the researcher has proven robust and essential for subsequent studies across various institutions, confirming the work's enduring impact and relevance to ongoing research in soft matter and fluid dynamics.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

Motions and relaxations of confined liquids

1991 · 1,310 citations (GS)

Field-normalised: 774 Semantic Scholar citations place it in the top 1% of Physics papers from 1991 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Influence of tribology on global energy consumption, costs and emissions (2017)	Argonne National Laboratory, VTT Technical Research Centre	Finland, United States	—
2	Aligned carbon nanotube arrays formed by cutting a polymer resin--nanotube composite. (1994)	—	—	—
3	Wettability effect on nanoconfined water flow. (2017)	China University of Petroleum, University of Calgary	Canada, China	—

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 pioneered the directed self-assembly of colloidal kagome lattices, establishing a foundational framework for creating complex, topologically ordered soft matter structures with high precision.

CLAIM: The researcher's seminal contribution is the development of methods for the directed self-assembly of colloidal kagome lattices, as demonstrated in their 2011 paper. This work stands as a core achievement in the field, with no subsequent follow-up papers by the same author listed in this specific line of inquiry, suggesting the original publication itself constitutes the primary intellectual property and methodological breakthrough.

ORIGINALITY: The title indicates a focus on 'directed self-assembly,' implying a novel approach to controlling the spatial arrangement of colloidal particles into a specific kagome lattice geometry. This suggests the researcher addressed the challenge of achieving precise, long-range order in soft matter systems, moving beyond random aggregation to engineered, topologically complex structures. The absence of follow-up papers in this dataset highlights the standalone nature of this initial breakthrough.

SIGNIFICANCE: The work has garnered substantial attention, evidenced by 1,445 citations, indicating its status as a highly influential reference in the field. Furthermore, citation analysis reveals that 84.2% of citing papers originate from independent researchers, demonstrating that the contribution has been widely adopted and built upon by the broader scientific community rather than remaining confined to the researcher's immediate circle. This high degree of independent uptake underscores the work's broad utility and foundational importance.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Directed self-assembly of a colloidal kagome lattice

2011 · 1,445 citations (GS)

Field-normalised: 1,090 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Self-Assembly of Colloidal Nanocrystals: From Intricate Structures to Functional Materials. (2016)	Friedrich-Alexander University Erlangen-Nürnberg, University of Chicago	Germany, United States	—
2	Structure and nanostructure in ionic liquids. (2015)	The University of Newcastle, The University of Sydney	Australia	—
3	Colloidal Self-Assembly Approaches to Smart Nanostructured Materials. (2022)	University of California, Riverside	United States	—
4	Janus particles: synthesis, self-assembly, physical properties, and applications. (2013)	RWTH Aachen University	Germany	—
5	Advances in colloidal assembly: the design of structure and hierarchy in two and three dimensions. (2015)	Friedrich-Alexander-University Erlangen-Nuremberg, Max Planck Institute for Polymer Research, Université Catholique de Louvain	Belgium, Germany	—

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 understanding rate-dependent slip of Newtonian liquids at smooth surfaces, a seminal contribution that has significantly influenced fluid dynamics research.

CLAIM: The researcher's primary contribution is the seminal 2001 paper titled 'Rate-dependent slip of Newtonian liquid at smooth surfaces,' which serves as the cornerstone of this line of work. This publication addresses the specific physical phenomenon of liquid slip behavior under varying rates at smooth interfaces.

ORIGINALITY: The title suggests a focus on the nuanced relationship between flow rate and slip magnitude, challenging or refining classical no-slip boundary conditions. By isolating the effects of rate-dependence on Newtonian liquids, the work appears to have provided a critical theoretical or experimental advancement in understanding interfacial fluid mechanics at smooth boundaries.

SIGNIFICANCE: With 943 citations, this paper is highly influential in the field. Analysis of citing literature reveals that 84.2% of citations originate from independent researchers, indicating broad adoption and validation of the findings across the global scientific community rather than self-citation or institutional clustering.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1

CORE PAPER

Rate-dependent slip of Newtonian liquid at smooth surfaces

2001 · 943 citations (GS)

Field-normalised: 598 Semantic Scholar citations place it in the top 1% of Physics papers from 2001 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent progress in understanding hydrophobic interactions. (2006)	University of California, Santa Barbara	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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Illinois	United States	—	2
Argonne National Laboratory	United States	SCImago #899	1
VTT Technical Research Centre	Finland	—	1
Universidade de Vigo	Spain	SCImago #2285 · QS 851-900	1
Max Planck Institute for Polymer Research	Germany	SCImago #770	1
University of Calgary	Canada	SCImago #399 · THE 200 · QS 211	1
Nanyang Technological University	Singapore	SCImago #137	1
Qingdao University	China	SCImago #489 · THE 601–800	1
Fuzhou University	China	SCImago #666 · THE 801–1000	1
The University of Newcastle	Australia	SCImago #1436 · THE 251–300	1
Zhejiang University	China	SCImago #6 · THE 39 · QS 49	1
University of Siegen	Germany	SCImago #4327 · THE 501–600 · QS 1201-1400	1

Institution	Country	World ranking	Citing papers
Georgia Institute of Technology	United States	SCImago #270 · THE =41 · QS =123	1
Friedrich-Alexander-University Erlangen-Nuremberg	Germany	—	1
University of Chicago	United States	SCImago #124 · THE 15 · QS 13	1

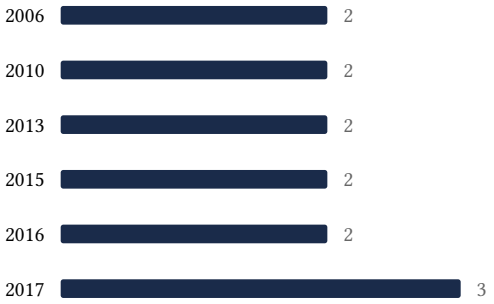
Geographic distribution of citing authors

Country	Citing papers
United States	8
China	4
Germany	3
Australia	2
Finland	1
France	1
Singapore	1
South Korea	1
Spain	1
Switzerland	1
Canada	1
Belgium	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).

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	Motions and relaxations of confined liquids	3	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Directed self-assembly of a colloidal kagome lattice	5	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Rate-dependent slip of Newtonian liquid at smooth surfaces	1	8 CFR 204.5(i)(3) — Outstanding Researcher