

# Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

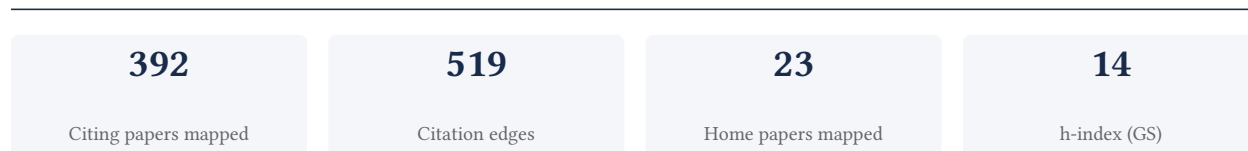
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[Google Scholar profile](#)

**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



### 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.

**94.3% independent** of 105 classified citing papers

Citation type	Count
Independent	99
Self-citation	6
Co-author	0
Same-institution	0

287 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 advanced the theoretical framework for metallic iron in environmental remediation by challenging established efficiency concepts and proposing adaptive mitigation strategies.*

CLAIM: The researcher established a foundational critique of current knowledge regarding metallic iron for environmental remediation, anchored by the 2020 paper titled 'Metallic iron for environmental remediation: Starting an overdue progress in knowledge.'

ORIGINALITY: This line of work appears to address a stagnation in the field, as suggested by the core paper's reference to 'overdue progress.' The researcher subsequently expanded this critique in 2021 by identifying the 'fallacy of the electron efficiency concept,' and further explored practical implications in 2022 by questioning whether the field should 'flee or adapt' to mitigate toxics.

SIGNIFICANCE: The core and 2021 follow-up papers have each accumulated 34 citations, indicating sustained engagement with these theoretical corrections. Notably, 94.3% of the 105 classified citations originate from independent researchers, suggesting that this critical re-evaluation of metallic iron applications has resonated broadly across the scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · 2 flagged influential by Semantic Scholar

### CORE PAPER

#### [Metallic iron for environmental remediation: Starting an overdue progress in knowledge](#)

2020 · Water 12 (3), 641, 2020 · 34 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Recycling and Disposal of Spent Metal (Iod)-Laden Adsorbents: Current and Emerging Technologies, and Future Directions</a>	University of Zimbabwe	Zimbabwe	—
2	<a href="#">Modeling porosity loss in Fe0-based permeable reactive barriers with Faraday's law</a>	—	—	—
3	<a href="#">Permeable reactive barriers with zero-valent iron and pumice for remediation of groundwater contaminated with multiple heavy metals</a>	—	—	Influential
4	<a href="#">Electrochemical monitoring of metal ions removal in Fe0/H2O systems: competitive effects of cations Zn2+, Pb2+, and Cd2+</a>	—	—	—

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).

### FOLLOW-UP WORK

#### [Metallic iron for environmental remediation: The fallacy of the electron efficiency concept](#)

2021 · Frontiers in Environmental Chemistry 2, 677813, 2021 · 34 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Materials for sustainable metallic iron-based water filters: a review</a>	—	—	Influential
2	<a href="#">Enhanced sequestration of chromium by mechanochemically silicified microscale zerovalent iron: Role of the silicate-modified surface</a>	—	—	—
3	<a href="#">Metallic iron for environmental remediation: the still overlooked iron chemistry</a>	—	—	Background
4	<a href="#">Recycling and Disposal of Spent Metal (loid)-Laden Adsorbents: Current and Emerging Technologies, and Future Directions</a>	University of Zimbabwe	Zimbabwe	—

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

#### FOLLOW-UP WORK

##### [Realizing the potential of metallic iron for the mitigation of toxics: flee or adapt?](#)

2022 · Applied Water Science 12 (9), 217, 2022 · 1 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

## Contribution 2

### Claim — Contribution 2

*The researcher redefined integrated water resource management by critically reassessing the specific role and contribution of rainwater harvesting within broader systemic frameworks.*

CLAIM: The researcher's primary contribution involves a critical re-evaluation of rainwater harvesting's role within integrated water resource management, as established in their 2021 paper titled 'Integrated water resource management: Rethinking the contribution of rainwater harvesting.'

ORIGINALITY: This work appears to address a conceptual gap by challenging or refining existing assumptions about how rainwater harvesting fits into larger water management strategies. The title suggests a shift from viewing rainwater harvesting in isolation to understanding its integrated contribution, offering a new perspective on resource optimization.

SIGNIFICANCE: The paper has garnered 93 citations, indicating substantial engagement with the research community. Notably, 94.3% of these citations originate from independent researchers, suggesting that the work has influenced scholars outside the researcher's immediate network and has been widely adopted as a reference point in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 19

#### CORE PAPER

##### [Integrated water resource management: Rethinking the contribution of rainwater harvesting](#)

2021 · Sustainability 13 (15), 8338, 2021 · 93 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Strategies and challenges for green campuses</a>	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
2	<a href="#">Urban Water Supply Sustainability and Resilience under Climate Variability: Innovative Paradigms, Approaches and Technologies</a>	—	—	—
3	<a href="#">Challenges and mitigation of water resource management in rural areas in Nigeria</a>	University of Port Harcourt	Nigeria	—
4	<a href="#">Geospatial selection of rainwater harvesting in Wadi Sarkhar: an analytical hierarchy process-multi-criteria evaluation approach</a>	—	—	—
5	<a href="#">Resource recovery from urban flood, municipal and industrial wastewaters in the context remediation technologies and circular economy</a>	—	—	—
6	<a href="#">Flood mitigation techniques using storm water harvesting methods: a bibliometric analysis</a>	—	—	—
7	<a href="#">Integrated urban water management for climate resilience: strategies for sustainable supply and flood risk mitigation</a>	—	—	—
8	<a href="#">Climate smart water conservation strategy for sustainable development in Nigeria: a systematic review</a>	University of Ibadan	Nigeria	—
9	<a href="#">What colors are the bricks? Unboxing the DeFi model-A literature survey, empirical study, and taxonomy of decentralized finance</a>	—	—	—
10	<a href="#">Simulation model to assess the water dynamics in small reservoirs</a>	—	—	—
11	<a href="#">Rainwater Harvesting and Nutrient Management: A Climate-Resilient Approach to Sustainable Agriculture in Semiarid Areas of Africa</a>	—	—	—
12	<a href="#">Sürdürülebilirlik Sürecinde Yağmur Suyu Hasadı: Sinop Üniversitesi Kuzey Yerleşkesi Örneği</a>	—	—	—
13	<a href="#">Analysis of rainwater harvesting for toilet and landscaping needs of building B, Nusa Putra University</a>	—	—	—
14	<a href="#">Enhancing Sorghum and Pearl Millet Productivity Using Rainwater Harvesting Techniques and Mulching in Semi-arid Area of Zimbabwe</a>	—	—	—
15	<a href="#">Next-Generation Natural Farming Practices for Crop Improvement</a>	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	—
16	<a href="#">Enhancing Groundwater Recharge Through Comparative Analysis Of Rainwater Harvesting Solutions In Arid Region Of Southern Afghanistan: A Review</a>	Kandahar University	Afghanistan	—

No.	Citing paper	Citing institution(s)	Country	S2
17	<a href="#">Projected Analysis of Fulfilling Pdam Clean Water Needs in Domestic Customers of Waginopo Village, Wangi-Wangi District, Wakatobi District</a>	—	—	Background
18	<a href="#">Urban Maintenance and Robustness</a>	Chongqing University	China	—
19	<a href="#">Assessment and Optimization of Rainwater Harvesting Potential for Urban Sustainability: A Case of Lahore</a>	—	—	—

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 Sheffield	United Kingdom	SCImago #526 · THE =108 · QS 92	2
Yorkshire Ambulance Service NHS Trust	United Kingdom	—	2
University of Lincoln	United Kingdom	SCImago #3036 · THE 601–800 · QS 801-850	2
Sheffield Emergency Care Forum	United Kingdom	—	2
Shanghai Jiao Tong University	China	SCImago #10 · THE 40 · QS =47	2
Kingston and St George's University	United Kingdom	—	2
University of Bath	United Kingdom	SCImago #1061 · THE 251–300 · QS =132	2
Vilnius Gediminas Technical University	Lithuania	SCImago #4114	1
China University of Mining and Technology	China	SCImago #426 · QS =654	1
University of Basel	Switzerland	SCImago #905 · THE 120 · QS 158	1
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	1
Tohoku University	Japan	SCImago #656 · THE =103 · QS 109	1
University of Ibadan	Nigeria	SCImago #4778 · THE 801–1000 · QS 1001-1200	1
Christ University	India	SCImago #5948 · THE 1501+	1
University of Port Harcourt	Nigeria	SCImago #8352 · THE 1501+	1

### Geographic distribution of citing authors

Country	Citing papers
China	7
Nigeria	2
United Kingdom	2

Country	Citing papers
United States	2
India	2
PR China	1
South Korea	1
Switzerland	1
Afghanistan	1
Zimbabwe	1
Canada	1
Indonesia	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.

## F. AAO Precedent Considerations

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### 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

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Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

<b>Contribution</b>	<b>Core paper</b>	<b>Indep. cites</b>	<b>Supports</b>
Contribution 1	Metallic iron for environmental remediation: Starting an overdue progress in knowledge	8	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Integrated water resource management: Rethinking the contribution of rainwater harvesting	19	8 CFR 204.5(h)(3)(v) – Criterion 5