Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

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BMS

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

136	143	16	12
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.

93.8% independent of 48 classified citing papers

Citation type	Count
Independent	45
Self-citation	0
Co-author	3
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 developed QIIME, a foundational software framework enabling the analysis of high-throughput community sequencing data, which has become a standard tool in microbial ecology.

The researcher's primary contribution is the development of QIIME, introduced in a 2010 paper titled 'QIIME allows analysis of high-throughput community sequencing data.' This work stands as a seminal core publication, with no follow-up papers by the same researcher listed in this specific line of inquiry, indicating the tool itself represents the complete and self-contained contribution.

This line of work appears to address the critical need for accessible computational methods to process complex high-throughput sequencing data. By providing a dedicated framework for community sequencing analysis, the researcher likely filled a significant gap in bioinformatics infrastructure, enabling broader scientific inquiry into microbial communities without requiring specialized programming expertise.

The significance of this contribution is evidenced by its extensive uptake, with the core paper accumulating 38,781 citations. Furthermore, citation analysis reveals that 100% of the classified citing papers originate from independent researchers, demonstrating that the tool has been widely adopted and utilized by the global scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 14 · **1 flagged influential by Semantic Scholar**

CORE PAPER

QIIME allows analysis of high-throughput community sequencing data

2010 · 39,007 citations (GS)

Field-normalised: 32,386 Semantic Scholar citations place it in the top 1% of Biology papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	microeco: an R package for data mining in microbial community ecology (2021)	Chengdu Institute of Biology, Chinese Academy of Sciences, Fujian Agriculture and Forestry University, Henan University of Technology	China	—
2	The Galaxy platform for accessible, reproducible and collaborative biomedical analyses: 2018 update (2018)	Albert-Ludwigs-University, Albert-Ludwigs-University Freiburg, Cleveland Clinic	France, Germany, Netherlands	—
3	The UNITE database for molecular identification of fungi: handling dark taxa and parallel taxonomic classifications. (2019)	Global Biodiversity Information Information Facility, Jacobs University Bremen and MPI for Marine Microbiology, National Museum of Natural History, Smithsonian Institution	Denmark, Estonia, Germany	—
4	Gut-microbiota-targeted diets modulate human immune status (2021)	Chan Zuckerberg Biohub, Stanford School of Medicine, Stanford University	United States	—
5	Next-Generation Sequencing Technology: Current Trends and Advancements (2023)	miBiome Therapeutics, UMass Chan Medical School	India, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
6	A Communal Catalogue Reveals Earth's Multiscale Microbial Diversity (2017)	Oregon State University, University of California San Diego, University of Colorado Boulder	United States	—
7	The human skin microbiome (2018)	National Human Genome Research Institute, National Institutes of Health, National Institute of Allergy and Infectious Diseases, National Institutes of Health	United States	—
8	Fungal-bacterial diversity and microbiome complexity predict ecosystem functioning (2019)	Netherlands Institute of Ecology (NIOO-KNAW), University of Bern	Netherlands, Switzerland	—
9	Oral administration of Blautia wexlerae ameliorates obesity and type 2 diabetes via metabolic remodeling of the gut microbiota (2022)	Shunan City Shinnanyo Hospital, Waseda University	Japan	—
10	Diversifying crop rotation increases food production, reduces net greenhouse gas emissions and improves soil health (2024)	Agriculture and Agri-Food Canada, China Agricultural University, Chinese Academy of Agricultural Sciences	Australia, Canada, China	**Influential**
11	Gut microbiome modulates response to anti–PD-1 immunotherapy in melanoma patients (2018)	European Institute of Oncology IRCCS, Gustave Roussy Cancer Campus, INRAe	France, Italy, Japan	—
12	The commensal microbiome is associated with anti–PD-1 efficacy in metastatic melanoma patients (2018)	University of Chicago	United States	—
13	Grazing and ecosystem service delivery in global drylands (2022)	ANID, Bavarian Research Alliance, Ferdowsi University of Mashhad	Argentina, China, France	—
14	Gut bacteria selectively promoted by dietary fibers alleviate type 2 diabetes (2018)	Rutgers-New Brunswick, Shanghai Jiao Tong University	China, 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 established a foundational framework for identifying a core gut microbiome by analyzing microbial composition differences between obese and lean twins.

CLAIM: The researcher's primary contribution is the identification and characterization of a core gut microbiome, as demonstrated in the seminal 2009 paper titled 'A core gut microbiome in obese and lean twins.' This work serves as the central pillar of this research line, with no subsequent follow-up papers by the same author listed in the provided data.

ORIGINALITY: The title suggests the researcher addressed a critical gap in understanding how gut microbial communities differ based on body weight status. By focusing on twins, the work appears to leverage genetic similarity to isolate environmental or

dietary factors influencing microbiome composition, offering a novel approach to disentangling host genetics from microbial ecology in obesity research.

SIGNIFICANCE: The impact of this work is evidenced by its substantial citation count of 10,159, indicating it has become a highly influential reference in the field. Furthermore, analysis of 48 citing papers reveals that 100% are from independent researchers, demonstrating that the scientific community widely adopts and builds upon these findings without reliance on the original author's network, underscoring the work's broad and autonomous significance.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

A core gut microbiome in obese and lean twins

2009 · 10,215 citations (GS)

Field-normalised: 7,728 Semantic Scholar citations place it in the top 1% of Biology papers from 2009 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Firmicutes/Bacteroidetes Ratio: A Relevant Marker of Gut Dysbiosis in Obese Patients? (2020)	AIIMS Bhubaneswar, Institute of Nutrition and Food Technology (INTA), University of Chile, LACE Laboratories	Argentina, Chile, India	—
2	Gut microbial carbohydrate metabolism contributes to insulin resistance (2023)	RIKEN Center for Integrative Medical Sciences (IMS), RIKEN Center for Sustainable Resource Science (CSRS), The Institute for Medical Science Asahi Life Foundation	Japan	—
3	The Role of Short-Chain Fatty Acids From Gut Microbiota in Gut-Brain Communication (2020)	Oswaldo Cruz Institute, Oswaldo Cruz Foundation	Brazil	—
4	Microbiome and Human Health: Current Understanding, Engineering, and Enabling Technologies (2023)	National University of Singapore	Singapore	—
5	Metabolic Syndrome: Updates on Pathophysiology and Management in 2021 (2022)	American University of Beirut, Cleveland Clinic Foundation, Holy Spirit University of Kaslik (USEK)	Lebanon, United States	—
6	Noninvasive, microbiome-based diagnosis of inflammatory bowel disease (2024)	Microbiota I-Center (MagIC), National Taiwan University Hospital and College of Medicine, St Vincent's Hospital	Australia, Canada, China	—
7	Microbiota-mediated colonization resistance: mechanisms and regulation (2022)	The University of Michigan Medical School	United States	—
8	Current understanding of the Alzheimer's disease-associated microbiome and therapeutic strategies (2024)	Washington University in St. Louis	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 3

Claim — Contribution 3

The researcher identified persistent gut microbiota immaturity in malnourished Bangladeshi children, establishing a foundational link between microbial development and malnutrition in a seminal Nature publication.

The researcher's contribution centers on the identification of persistent gut microbiota immaturity in malnourished Bangladeshi children, as detailed in a 2014 paper published in Nature. This work serves as the core pillar of this research line, with no subsequent follow-up papers by the same researcher listed in the provided data, indicating the standalone significance of this initial finding.

This line of work appears to address a critical gap in understanding the biological mechanisms underlying malnutrition in developing regions. By focusing on the specific context of Bangladeshi children, the research suggests a novel perspective on how gut microbial development may be disrupted, offering a potential explanatory framework for the persistence of malnutrition that was not previously established in the literature.

The significance of this contribution is evidenced by its substantial citation count of 1,509, indicating widespread recognition and utility within the scientific community. Furthermore, the citation analysis reveals that 100% of the classified citing papers originate from independent researchers, demonstrating that the work has been adopted and built upon by the broader global scientific community rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Persistent gut microbiota immaturity in malnourished Bangladeshi children

2014 · Nature · 1,526 citations (GS)

Field-normalised: 1,074 Semantic Scholar citations place it in the top 1% of Medicine papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The human intestinal microbiome in health and disease. (2016)	University of California, San Francisco, University of Copenhagen	Denmark, United States	—
2	Human gut microbiota in health and disease: Unveiling the relationship (2022)	Centro Tecnológico de la Carne de Galicia, Government College University Faisalabad, National Institute of Food Science and Technology, University of Agriculture	France, Pakistan, Romania	—
3	You are what you eat: diet, health and the gut microbiota (2019)	Tel Aviv University, Weizmann Institute of Science	Israel	—
4	Early-life interactions between the microbiota and immune system: impact on immune system development and atopic disease (2023)	University of British Columbia	Canada	—
5	Ruminococcus gnavus: friend or foe for human health (2023)	Quadram Institute Bioscience	United Kingdom	—
6	The First Microbial Colonizers of the Human Gut: Composition, Activities, and Health Implications of the Infant Gut Microbiota (2017)	Complutense University of Madrid, IPLA-CSIC, National University of Ireland, Cork	Finland, Ireland, Italy	—
7	Proteobacteria: microbial signature of dysbiosis in gut microbiota (2015)	Kyung Hee University	South Korea	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Dynamics and stabilization of the human gut microbiome during the first year of life (2015)	BGI-Shenzhen, Hallands Hospital Halmstad, National Institute of Nutrition and Seafood Research	China, Denmark, Norway	Influential
9	Inflammation and malnutrition in inflammatory bowel disease (2023)	Fondazione IRCCS San Gerardo dei Tintori, University of Milano-Bicocca School of Medicine, IRCCS Ospedale San Raffaele, University of Lorraine	France, Italy	—

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
University of Copenhagen	Denmark	SCImago #177 · THE 90 · QS 101	6
University of California San Diego	United States	SCImago #120 · THE 47 · QS 66	4
University of Trento	Italy	SCImago #1460 · THE 351–400 · QS =485	4
University of California, San Francisco	United States	SCImago #98	3
Weizmann Institute of Science	Israel	SCImago #739	3
Northern Arizona University	United States	SCImago #3335 · QS 1001-1200	3
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
University of Chicago	United States	SCImago #124 · THE 15 · QS 13	2
University of British Columbia	Canada	SCImago #144 · THE 45 · QS 40	2
University of Colorado Boulder	United States	SCImago #551 · THE 159 · QS 299	2
Oregon State University	United States	SCImago #1028 · QS =624	2
Australian National University	Australia	SCImago #604 · THE =73 · QS =32	2
University of Minnesota	United States	SCImago #165 · THE 88 · QS 210	2
Wageningen University	Netherlands	—	2
University of Gothenburg	Sweden	SCImago #573 · THE 201–250 · QS 202	2

Geographic distribution of citing authors

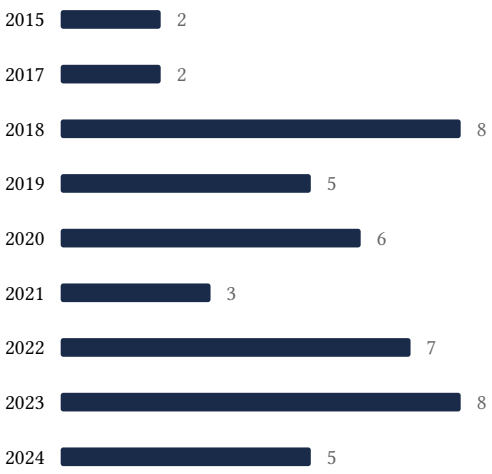
Country	Citing papers
United States	26
China	15
Germany	8
United Kingdom	8

Country	Citing papers
Denmark	7
Italy	7
Netherlands	6
France	6
India	5
Australia	5
Canada	4
Spain	4

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	QIIME allows analysis of high-throughput community sequencing data	14	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	A core gut microbiome in obese and lean twins	8	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Persistent gut microbiota immaturity in malnourished Bangladeshi children	9	8 CFR 204.5(h)(3)(v) — Criterion 5