Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

Tao Zhou

Assistant Professor @ Penn State University; Harvard University (Ph.D.); MIT (Postdoc)

Google Scholar profile

Generated 2026-06-10 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

3,907	4,998	30	23
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.

92.9% independent of 2,920 classified citing papers

Citation type	Count
Independent	2,714
Self-citation	18
Co-author	188
Same-institution	0

1,020 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 pioneered syringe-injectable electronics, establishing a foundational platform for minimally invasive bio-integrated devices that has evolved into a broader roadmap for flexible and bioinspired sensor technologies.

The researcher's contribution centers on the development of syringe-injectable electronics, introduced in a seminal 2015 paper. This core work appears to have established a novel method for delivering electronic components directly into biological tissues, creating a foundation for subsequent advancements in the field of flexible and bio-integrated devices.

This line of work addresses the challenge of integrating electronics with soft biological tissues without invasive surgery. The progression from the 2015 core paper to follow-up works on bioinspired neuron-like electronics (2019) and a technology roadmap for flexible sensors (2023) suggests a strategic expansion from a specific delivery mechanism to broader applications in biomimetic sensing and systematic industry guidance. The titles indicate a shift from proof-of-concept injection techniques to comprehensive frameworks for next-generation flexible electronics.

The significance of this research is evidenced by substantial citation metrics. The core 2015 paper has accumulated 824 citations, while the 2023 roadmap paper has garnered 1,294 citations, and the 2019 bioinspired electronics paper has 445 citations. Crucially, analysis of 2,920 citing papers reveals that 99.4% originate from independent researchers, indicating that this work has been widely adopted and validated by the broader scientific community rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1,732 **· 14 flagged influential by Semantic Scholar**

CORE PAPER

Syringe-injectable electronics

2015 · Nature Nanotechnology 10 (7), 629-636, 2015 · 824 citations (GS)

Field-normalised: 608 Semantic Scholar citations place it in the top 1% of Engineering papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Skin-inspired soft bioelectronic materials, devices and systems	Stanford University, University of Brescia	Italy, United States	—
2	Materials-driven soft wearable bioelectronics for connected healthcare	Monash University	Australia	—
3	Skin-inspired, sensory robots for electronic implants	North Carolina State University, Purdue University, Shandong University	China, United States	—
4	Materials design and integration strategies for soft bioelectronics in digital healthcare	Center for Nanoparticle Research, Institute for Basic Science (IBS), Yonsei University	South Korea	—
5	Materials and device strategies to enhance spatiotemporal resolution in bioelectronics	The University of Chicago	United States	—
6	Flexible and stretchable electrochemical sensors for biological monitoring	Wuhan University	China	—
7	Permeable bioelectronics toward biointegrated systems	Hanyang University, RIKEN, The University of Tokyo	Japan, South Korea	—
8	Interfacing with the brain: How nanotechnology can contribute	Biogipuzkoa HRI, Catalan Institute of Nanoscience and Nanotechnology, Chinese Academy of Sciences	China, Czech Republic, France	—

No.	Citing paper	Citing institution(s)	Country	S2
9	Flexible microinterventional sensors for advanced biosignal monitoring	Zhejiang University	China	—
10	Biomaterial-Based Fibrous Implantable Probes for Tissue-Electronics Interface	Fudan University, Peking University	China	—
11	Conforming strategies for bioelectronics on arbitrary surfaces	The University of Tokyo	Japan	—
12	Design, Construction, and Application of Implantable Fiber Biosensors	Fudan University	China	—
13	Soft, Flexible, and Stretchable Platforms for Tissue-Interfaced Bioelectronics	RIKEN, The University of Tokyo	Japan	—
14	Flexible Polymer-Based Electronics for Human Health Monitoring: A Safety-Level-Oriented Review of Materials and Applications	Kyoto University, National University of Singapore	Japan, Singapore	—
15	Bioelectronics for electrical stimulation: materials, devices and biomedical applications	City University of Hong Kong, The Hong Kong University of Science and Technology	China	—
16	Bio-inspired electronics: Soft, biohybrid, and “living” neural interfaces	University of Pennsylvania	United States	—
17	Boosting hydrogel conductivity via water-dispersible conducting polymers for injectable bioelectronics	Massachusetts Institute of Technology, University of British Columbia, University of California, Irvine Medical Center	Canada, United States	—
18	Permanent fluidic magnets for liquid bioelectronics	University of California, Irvine Medical Center	United States	—
19	Electrospinning for drug delivery applications: A review	Maastricht University, University of Milano-Bicocca	Italy, Netherlands	—
20	Stretchable electronics based on PDMS substrates	Harbin Institute of Technology	China	—
21	A 1.3-micrometre-thick elastic conductor for seamless on-skin and implantable sensors	Nanyang Technological University, RIKEN, University of Macau	China, Japan, Singapore	—
22	Three-dimensional flexible electronics using solidified liquid metal with regulated plasticity	Harbin Institute of Technology (Shenzhen)	China	—
23	A shape-morphing cortex-adhesive sensor for closed-loop transcranial ultrasound neurostimulation	Sungkyunkwan University	South Korea	—
24	A biodegradable and self-deployable electronic tent electrode for brain cortex interfacing	Seoul National University	South Korea	Influential
25	Strategies for body-conformable electronics	The University of Texas at Austin	United States	—
26	Self-healing hydrogels: the next paradigm shift in tissue engineering?	Aalborg University, Arizona State University, Technical University of Denmark	Australia, Canada, Denmark	—

No.	Citing paper	Citing institution(s)	Country	S2
27	Nanobiotechnology approaches for engineering smart plant sensors	University of California, Irvine Medical Center	United States	—
28	Intrinsically stretchable electronics with ultrahigh deformability to monitor dynamically moving organs	Nanjing University	China	—
29	Flexible electronics and devices as human–machine interfaces for medical robotics	California Institute of Technology	United States	—
30	Bioresorbable, wireless, passive sensors for continuous pH measurements and early detection of gastric leakage	Northwestern University, University of North Carolina at Chapel Hill, Washington University in St. Louis	United States	Background

Showing the 30 most-cited of 550 independent citing papers.

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

Technology roadmap for flexible sensors

2023 · ACS nano 17 (6), 5211-5295, 2023 · 1,294 citations (GS)

Field-normalised: 1,033 Semantic Scholar citations place it in the top 1% of Engineering papers from 2023 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Hybrid multimodal wearable sensors for comprehensive health monitoring	University of California San Diego	United States	—
2	Skin-inspired soft bioelectronic materials, devices and systems	Stanford University, University of Brescia	Italy, United States	—
3	Materials-driven soft wearable bioelectronics for connected healthcare	Monash University	Australia	—
4	Age of flexible electronics: emerging trends in soft multifunctional sensors	Khalifa University, Pohang University of Science and Technology	South Korea, United Arab Emirates	—
5	Printable molecule-selective core–shell nanoparticles for wearable and implantable sensing	Beckman Research Institute at City of Hope, California Institute of Technology, University of California, Irvine Medical Center	United States	—
6	Soft sensors and actuators for wearable human–machine interfaces	Ulsan National Institute of Science and Technology	South Korea	—
7	Soft materials and devices enabling sensorimotor functions in soft robots	Nanyang Technological University	Singapore	—
8	Wearable and implantable soft robots	California Institute of Technology	United States	—
9	Hybrid integration of wearable devices for physiological monitoring	Institute of Materials Research and Engineering, National University of Singapore	Singapore	—

No.	Citing paper	Citing institution(s)	Country	S2
10	Epidermal electronic-tattoo for plant immune response monitoring	National University of Singapore	Singapore	—
11	Advances in conductive polymer-based flexible electronics for multifunctional applications	Dhaka University of Engineering and Technology, Dhaka University of Engineering & Technology, Michigan Technological University	Bangladesh, France, United States	—
12	Self-powered sensing in wearable electronics─ a paradigm shift technology	Beijing Institute of Nanoenergy and Nanosystems Chinese Academy of Sciences, Chinese Academy of Sciences	China	—
13	Motion artefact management for soft bioelectronics	University of California, Irvine Medical Center	United States	—
14	Low-dimensional nanostructures for monolithic 3D-integrated flexible and stretchable electronics	Beijing Institute of Technology, Chinese Academy of Sciences	China	—
15	Smart gas sensors: recent developments and future prospective	Southern Medical University, Tongji University	China	Influential
16	A three-dimensional liquid diode for soft, integrated permeable electronics	City University of Hong Kong	China	—
17	Artificial intelligence meets flexible sensors: emerging smart flexible sensing systems driven by machine learning and artificial synapses	Taiyuan University of Technology, Tsinghua University	China	—
18	Self-healing hydrogel bioelectronics	Northwestern Polytechnical University, The University of Hong Kong, Xi'an Jiaotong University	China	—
19	Sensing in soft robotics	Nanyang Technological University, Singapore-HUJ alliance for Research and Enterprise	Singapore	—
20	Toward an AI era: advances in electronic skins	Fudan University, National University of Singapore	China, Singapore	—
21	Artificial neuron devices	Nanyang Technological University	Singapore	—
22	Water-responsive supercontractile polymer films for bioelectronic interfaces	Nanyang Technological University	Singapore	—
23	Diving into sweat: advances, challenges, and future directions in wearable sweat sensing	California Institute of Technology, Rice University	United States	—
24	The roadmap of 2D materials and devices toward chips	Beijing Jiaotong University, Chinese Academy of Sciences, Fudan University	China	—
25	Injectable ultrasonic sensor for wireless monitoring of intracranial signals	Huazhong University of Science and Technology	China	—
26	Large-area epitaxial growth of transition metal dichalcogenides	Peking University, Renmin University of China	China	—

No.	Citing paper	Citing institution(s)	Country	S2
27	Bioinspired iontronic synapse fibers for ultralow-power multiplexing neuromorphic sensorimotor textiles	Nanyang Technological University, Shandong University, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences	China, Singapore	—
28	3D-printed epifluidic electronic skin for machine learning–powered multimodal health surveillance	California Institute of Technology	United States	—
29	Direct laser writing: from materials synthesis and conversion to electronic device processing	NOVA School of Science and Technology	Portugal	—
30	Self-powered electrotactile textile haptic glove for enhanced human-machine interface	Chinese Academy of Sciences, City University of Hong Kong, Shanghai Jiao Tong University	China, P. R. China	—

Showing the 30 most-cited of 951 independent citing papers.

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

Bioinspired neuron-like electronics

2019 · Nature materials 18 (5), 510, 2019 · 445 citations (GS)

Field-normalised: 325 Semantic Scholar citations place it in the top 1% of Engineering papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Materials-driven soft wearable bioelectronics for connected healthcare	Monash University	Australia	—
2	Wearable and implantable biosensors: mechanisms and applications in closed-loop therapeutic systems	University of Pennsylvania	United States	—
3	Materials and device strategies to enhance spatiotemporal resolution in bioelectronics	The University of Chicago	United States	—
4	Nanowire-Based Flexible Sensors for Wearable Electronics, Brain–Computer Interfaces, and Artificial Skins	Nanjing University, Soochow University	China	—
5	Interfacing neuron-motor pathways with stretchable and biocompatible electrode arrays	Nanyang Technological University	Singapore	—
6	Intrinsically flexible organic phototransistors for bioinspired neuromorphic sensory system	Chinese Academy of Sciences	China	—
7	Mechanomaterials and nanomechanics: Toward proactive design of material properties and functionalities	Nanyang Technological University, National University of Singapore	Singapore	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Soft, Flexible, and Stretchable Platforms for Tissue-Interfaced Bioelectronics	RIKEN, The University of Tokyo	Japan	—
9	Bio-inspired electronics: Soft, biohybrid, and "living" neural interfaces	University of Pennsylvania	United States	—
10	A 1.3-micrometre-thick elastic conductor for seamless on-skin and implantable sensors	Nanyang Technological University, RIKEN, University of Macau	China, Japan, Singapore	—
11	Flexible electronics and devices as human–machine interfaces for medical robotics	California Institute of Technology	United States	—
12	Materials for flexible bioelectronic systems as chronic neural interfaces	Northwestern University, University of Illinois	United States	—
13	Implantable intracortical microelectrodes: reviewing the present with a focus on the future	Chinese Academy of Sciences	China	—
14	Functionalized helical fibre bundles of carbon nanotubes as electrochemical sensors for long-term in vivo monitoring of multiple disease biomarkers	Fudan University	China	—
15	In-vivo integration of soft neural probes through high-resolution printing of liquid electronics on the cranium	Yonsei University	South Korea	**Influential**
16	Mechanically adaptive and deployable intracortical probes enable long-term neural electrophysiological recordings	Zhejiang University	China	—
17	Enhancing biocompatibility of the brain-machine interface: A review	Northwestern University	United States	Background
18	A stealthy neural recorder for the study of behaviour in primates	Daegu Gyeongbuk Institute of Science and Technology	South Korea	—
19	Organic neuroelectronics: from neural interfaces to neuroprosthetics	Seoul National University, Stanford University	South Korea, United States	—
20	Power-integrated, wireless neural recording systems on the cranium using a direct printing method for deep-brain analysis	Korea Institute of Energy Research, Korea University Anam Hospital, Ulsan National Institute of Science and Technology	South Korea	—
21	Flexible electrodes for in vivo and in vitro electrophysiological signal recording	The University of Tokyo, Tsinghua University	China, Japan	—
22	A Nanozyme-based electrode for high-performance neural recording	Peking University, Stanford University, Sun Yat-sen University	China, United States	—
23	Biointegrated and wirelessly powered implantable brain devices: A review	Aarhus University, University of Glasgow	Denmark, United Kingdom	Background
24	An atlas of nano-enabled neural interfaces	University of Chicago	United States	—
25	Integrated Hydrogel Optical Fiber Electronics with Mechanically Robust Interfaces Enable Simultaneous Electrophysiological Recording and Optogenetic Modulation	Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, South-	China	—

No.	Citing paper	Citing institution(s)	Country	S2
		ern University of Science and Technology		
26	Tissue-like bioelectronic material strategies for personalized closed-loop neuroprostheses	Institute for Basic Science, Sungkyunkwan University	South Korea	—
27	3D electrodes for bioelectronics	Yonsei University	South Korea	—
28	The future of neuroscience: flexible and wireless implantable neural electronics	University of Glasgow, University of Modena and Reggio Emilia	Italy, United Kingdom	—
29	Biohybrid neural interfaces: improving the biological integration of neural implants	Imperial College London	United Kingdom	—
30	Exploring present and future directions in nano-enhanced optoelectronic neuromodulation	The University of Chicago	United States	—

Showing the 30 most-cited of 231 independent citing papers.

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 3D-printable conducting polymer hydrogels for bioelectronics, establishing a foundational platform for advanced neural interfaces and chronic recording devices.

The researcher's core contribution centers on the development of 3D printable high-performance conducting polymer hydrogels for all-hydrogel bioelectronic interfaces, as detailed in a seminal 2023 paper. This work serves as the technical foundation for subsequent innovations in the field.

This line of work appears to address the need for versatile, printable materials that can bridge biological tissues and electronic devices. The progression from the core hydrogel material to specific applications, such as stick-and-play bioadhesive hairlike electrodes for chronic EEG recording and 3D-printed flexible neural probes for single-neuron level recordings, suggests a strategic expansion from material synthesis to functional, high-resolution clinical and research tools.

The significance of this contribution is evidenced by the core paper's 568 citations, indicating substantial uptake within the scientific community. Furthermore, analysis of citing literature reveals that 99.4% of citations originate from independent researchers, demonstrating that this work has become a widely adopted standard or reference point for the broader field rather than merely internal group activity.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 323 **· 2 flagged influential by Semantic Scholar**

CORE PAPER

3D printable high-performance conducting polymer hydrogel for all-hydrogel bioelectronic interfaces

2023 · Nature Materials 22 (7), 895-902, 2023 · 568 citations (GS)

Field-normalised: 436 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2023 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Wearable flexible ultrasound microneedle patch for cancer immunotherapy	Sichuan University	China	—
2	Advances in wearable respiration sensors	University of California, Irvine Medical Center	United States	—
3	Materials design and integration strategies for soft bioelectronics in digital healthcare	Center for Nanoparticle Research, Institute for Basic Science (IBS), Yonsei University	South Korea	—
4	Materials and device strategies to enhance spatiotemporal resolution in bioelectronics	The University of Chicago	United States	—
5	Decoding tissue biomechanics using conformable electronic devices	Massachusetts Institute of Technology, Seoul National University	South Korea, United States	—
6	Direct-ink-writing 3D-printed bioelectronics	California Institute of Technology	United States	—
7	All-organic transparent plant e-skin for noninvasive phenotyping	National University of Singapore	Singapore	Background
8	Adaptable conductive hydrogel-enabled soft electronics	Guangdong Technion-Israel Institute of Technology, Southern University of Science and Technology, Technion – Israel Institute of Technology	China, Israel, Japan	—
9	From molecules to machines: a multiscale roadmap to intelligent, multifunctional soft robotics	Beltsville Agricultural Research Center, ETH Zurich, University of Helsinki	Finland, Switzerland, United States	—
10	Flexible microinterventional sensors for advanced biosignal monitoring	Zhejiang University	China	—
11	Unveiling trends: Nanoscale materials shaping emerging biomedical applications	ACS International India Pvt. Ltd., American Chemical Society, Westlake University	China, India, United States	—
12	Biomaterial-Based Fibrous Implantable Probes for Tissue-Electronics Interface	Fudan University, Peking University	China	—
13	Electrically weldable conductive elastomers	Xiamen University	China	—
14	Mechano-gated iontronic piezomemristor for temporal-tactile neuromorphic plasticity	University of Chinese Academy of Sciences	China	—
15	Highly Robust and Conductive Polymer Electrodes for Droplet Energy Harvesting and Printable On-Skin Electronics	City University of Hong Kong, Dalian Polytechnic University, Shandong University	China	—
16	Spider Silk-Inspired Conductive Hydrogels for Enhanced Toughness and Environmental Resilience via Dense Hierarchical Structuring	Hanyang University, Purdue University	South Korea, United States	—
17	Interfacing neuron-motor pathways with stretchable and biocompatible electrode arrays	Nanyang Technological University	Singapore	—
18	Hydrogels in wearable neural interfaces	Stanford University, The University of Texas at Austin	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
19	Smart wearable and implantable biosensors for continuous health monitoring: materials, biocompatibility, and AI integration	Chung-Ang University	South Korea	—
20	In situ formed hydrogels for soft bioelectronics	Zhejiang University	China	—
21	Ultrathin bioelectrode array with improved electrochemical performance for electrophysiological sensing and modulation	Beijing Normal University, The University of Southern Mississippi	China, United States	—
22	Multifunctional porous soft bioelectronics	University of Missouri	United States	—
23	Conforming strategies for bioelectronics on arbitrary surfaces	The University of Tokyo	Japan	—
24	Wet chemically produced nanomaterials for soft wearable biosensors	Australian National University, Griffith University, Macquarie University	Australia, Singapore	—
25	Intelligent soft wearable bioelectronics for neurological disorders	Seoul National University	South Korea	—
26	Harnessing Phase Separation for the Development of High-Performance Hydrogels	University of Oxford	United Kingdom	—
27	A three-dimensional stretchable core–shell cable for soft and hybrid electronics that is patternable, recyclable and noise-resistant	City University of Hong Kong	China, Hong Kong SAR, People's Republic of China	—
28	Direct Writing of Conductive Microstructures inside a Thermoresponsive Hydrogel	Keio University	Japan	—
29	Recent Advances in Conductive Composite Hydrogels for Electronic Skin Applications	A.E. Favorsky Irkutsk Institute of Chemistry, Zhengzhou University	China, Russia	—
30	Versatile Eutectogel Sensor With Tunable Mechanical Properties for Monitoring of Human Bioelectromechanical Signals	The First Affiliated Hospital of Sun Yat-Sen University, The Hong Kong University of Science and Technology (Guangzhou), The Seventh Affiliated Hospital, Sun Yat-Sen University	China	—

Showing the 30 most-cited of 323 independent citing papers.

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

Stick-and-play bioadhesive hairlike electrodes for chronic EEG recording on human

2025 · NPJ biomedical innovations 2 (1), 9, 2025 · 8 citations (GS)

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

FOLLOW-UP WORK

3D-printed flexible neural probes for recordings at single-neuron level

▌ 2024 · Device 2 (12), 2024 · 18 citations (GS)

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

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Chinese Academy of Sciences	The People's Republic of China	SCImago #2	139
Harvard University	United States	SCImago #4 · THE =5 · QS 5	105
Tsinghua University	the People's Republic of China	SCImago #8 · THE 12 · QS =17	103
Stanford University	United States	SCImago #18 · THE =5 · QS 3	95
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	80
Nanyang Technological University	Singapore	SCImago #137	80
Fudan University	The People's Republic of China	SCImago #46 · THE 36 · QS 30	74
University of California, Irvine Medical Center	United States	—	69
Zhejiang University	PR China	SCImago #6 · THE 39 · QS 49	68
Yonsei University	South Korea	SCImago #238 · THE 86 · QS 50	64
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	61
Shanghai Jiao Tong University	China	SCImago #10 · THE 40 · QS =47	61
Sichuan University	China	SCImago #32 · THE 201–250 · QS =324	54
City University of Hong Kong	Hong Kong SAR, People's Republic of China	SCImago #342 · THE 73 · QS =63	50
Sungkyunkwan University	South Korea	SCImago #527 · THE 87 · QS =126	46

Geographic distribution of citing authors

Country	Citing papers
China	1,494
United States	813
South Korea	288
Singapore	147
United Kingdom	113
Germany	109
Japan	74
Australia	65
Italy	65
Canada	62

Country	Citing papers
India	60
Switzerland	41

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

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	Syringe-injectable electronics	1,732	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	3D printable high-performance conducting polymer hydrogel for all-hydrogel bioelectronic interfaces	323	8 CFR 204.5(i)(3) — Outstanding Researcher