



How to Support STEM International Students and Scholars in U.S. Immigration

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What can be done, and why now?

2024 is a time of opportunity for international STEM talent in the U.S. immigration system. This opportunity comes from STEM immigration initiatives announced by the Biden Administration in 2022, which provide clarifying guidance for a variety of immigration categories. A [recent article in Science](#), along with STEM-related petition trend [data](#) released by U.S. Citizenship and Immigration Services (USCIS), shows the direct effect of these policies in increased approvals.

We now have an unprecedented view of the standards immigration officers use to adjudicate cases, which can help international STEM talent prepare strong, focused applications. U.S. immigration adjudicators require specificity and detail around documentation of recognition in the field. Institutions of higher education are now in a unique position to provide training on the new guidance for international students, scholars, and their mentors.

2024 has seen a unique confluence of trends including 1) an increasing number of foreign students 2) a rapidly growing need for STEM talent in the job market, and 3) a government that has updated immigration policies in light of a decades-long stalled Congress.

International STEM students and professionals are concerned about their ability to stay in the United States, in part due to inconsistency in processing times, visa backlogs and quotas, and length of security checks. While schools cannot resolve these issues, they can play a vital part in helping their international students and scholars prepare for success in the immigration system. Moreover, some of these same actions align with mentoring best practices, and help create a professional community for all early career STEM experts, regardless of nationality.

This writeup explains the legal framework for STEM immigration, and provides three practical steps institutions of higher education can take that make concrete improvements in documenting recognition and accomplishments for early career scientists. These recommendations are based on conversations with colleges and universities on what is useful for immigration purposes, and also on what is realistic given the workflow, mission, and structure of institutions of higher education.

Legal framework

The main parts of the U.S. immigration framework relevant to scientists were passed by Congress in 1990. They clearly need updates to fit the needs of the 21st century, but for now Congress is stalled on immigration reform.

Yet the talent pool already in the United States of foreign-born scientists, technologists, and engineers facing the challenge of navigating the outdated US immigration system is significant. About 45 percent of STEM Masters and 46 percent of STEM PhDs awarded by US institutions



go to international students on temporary visas.¹ Moreover, 49 percent of U.S.-trained postdocs were born abroad, as were 29 percent of STEM faculty.²

Successful immigration processing requires planning, especially to qualify for more subjective categories. For example, several U.S. immigration categories common to scientists involve “marketing” the individual. These categories can require specific types of evidence, but also a “final merits determination” that evaluates the “totality of the evidence” to determine if the individual has “extraordinary ability,” “international recognition,” or “exceptional ability.” Assembling the right type of supporting documentation (such as evidence of peer reviewing plus metrics on the journal) is crucial to convincing an immigration officer that the international STEM graduate qualifies in a subjective category.

These categories do require significant accomplishments, but even acknowledging the high standard, they remain underused. For example, the O-1A category (higher level temporary employment status, usually for postdocs, faculty or similar positions in industry) is underused. Data released by USCIS in January 2024³ show about a 30 percent increase in the use of O-1A for STEM activities following the Biden administration’s January 2022 guidance but still about 4560 O-1A petitions approved by USCIS for experts in STEM fields. This is despite around 14,000 international students graduating each year with STEM PhDs from U.S. institutions, according to the Department of Homeland Security’s (DHS) Student and Exchange Visitor Program (SEVP), and around 35,000 international STEM post-doctoral fellows in the United States annually, according to the National Science Foundation (NSF).

While we do not know the particular accomplishments of the international STEM PhD holders already in the United States, they are already an elite group within the overall universe of scientists in the country at all degree levels. Clearly more than 10 percent of these individuals should qualify for O-1A status in their particular area of endeavor.

Scientists who think early on in their career about the storytelling they will need to engage in for immigration purposes can gather evidence accordingly, and will be in a better position when they do submit an immigration application. Taking agency over developing career accomplishments and associated documentation reduces the risks of inconsistency in case evaluation by USCIS, and possible Requests for Evidence (RFEs) asking for more material to approve a case. These RFEs can do more than increase the financial and psychological costs of the case: the fear of an RFE can deter a foreign national and the employer from applying in the first place. Institutions of higher education can help their international students and scholars by encouraging them to gather proactively any documents that specifically anticipate RFEs.

¹“Table 318.45. Number and percentage distribution of science, technology, engineering, and mathematics (STEM) degrees/certificates conferred by postsecondary institutions, by race/ ethnicity, level of degree/certificate, and sex of student: Academic years 2011-12 through 2020-21,” Digest of Education Statistics, National Center for Education Statistics, (September 2022), https://nces.ed.gov/programs/digest/d22/tables/dt22_318.45.asp.

² “Foreign-Born Students And Workers In The U.S. Science And Engineering Enterprise” Science and Engineering Indicators, National Science Board, (2020), <https://www.nsf.gov/nsb/sei/one-pagers/Foreign-Born.pdf>.

³ “FACT SHEET: Biden-Harris Administration Actions to Attract STEM Talent and Strengthen our Economy and Competitiveness,” White House, (January 21, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/21/fact-sheet-biden-harris-administrati-on-actions-to-attract-stem-talent-and-strengthen-our-economy-and-competitiveness/>.

Four steps institutions of higher education can take

This is a particularly good time for schools to engage in supporting their international students and scholars in U.S. immigration because the Biden Administration has expanded the guidance for USCIS officers to help attract and retain STEM talent.⁴ This guidance is public-facing, and institutions of higher education can learn from it to help support their international students and scholars in these specific ways:

1. Educate younger international students and scholars to prepare their experiences and credentials in a way that supports future immigration status applications. Schools can provide webinars and other outreach to help their more junior members understand the updated immigration guidance and how to use it to their advantage.

2. Encourage more senior STEM faculty and researchers to mentor younger scientists for success in the US immigration system, primarily by formally recognizing accomplishments in line with NSF mentoring initiatives. For example, Principal Investigators can specifically name junior researchers on grant applications. The new USCIS policy guidance for O-1A status,⁵ for example, notes:

“The record establishes that the beneficiary is named as an investigator, scientist, or researcher on a peer-reviewed and competitively funded U.S. government grant or stipend for STEM research. This type of evidence can be a positive factor indicating a beneficiary is among the small percentage at the top of the beneficiary’s field.”

Professors can also assist younger researchers to find opportunities to peer review for conferences, journals or grants in their own name (as opposed to writing the review for the professor to submit). The updated USCIS guidance for the Outstanding Researcher category of permanent residence⁶ states that:

“A petitioner might document a beneficiary’s peer review work by submitting a copy of a request from a journal to the beneficiary to do the review, accompanied by evidence confirming that the beneficiary actually completed the review.”

3. Review STEM doctoral programs to add the option of obtaining a Masters degree along the way. Some programs already do this, but not all. Having an advanced degree opens the door to a possible National Interest Waiver self-petition before receiving the PhD.

4. Encourage campus-based journals or organizers or conferences on campus to provide some additional evidence upfront to authors, peer reviewers, speakers etc. that can be used later in immigration petitions. Currently, when a STEM graduate prepares an immigration petition, the evidence may include an invitation to peer review, speak at a conference, help organize a

⁴ See *Id.* and “On STEM, Give Biden Credit” (January 24, 2022, Washington Post). See also, this American Immigration Council website which provides explanation and links on the 2022 Biden STEM initiatives and a Forbes article providing a high level summary.

⁵ “Chapter 4 - O-1 Beneficiaries,” Policy Manual, U.S. Citizenship and Immigration Services, last updated July 18, 2024, <https://www.uscis.gov/policy-manual/volume-2-part-m-chapter-4>.

⁶ “Chapter 3 - Outstanding Professor or Researcher,” Policy Manual, U.S. Citizenship and Immigration Services, last updated July 18, 2024, <https://www.uscis.gov/policy-manual/volume-6-part-f-chapter-3>.



conference, or confirmation of publication acceptance. Then, the applicant with an attorney will gather contextual evidence about the society or the journal. If this contextual evidence were offered upfront in the correspondence from the society or journal, it would be more powerful to the USCIS officer and simpler for the international STEM graduate. This will also benefit more junior researchers since they are less likely to obtain a support letter later on from the society or journal to support the immigration petition and reduce the number of one-off requests to the society or journal.

For example, *three* common immigration categories include considering and giving weight to evidence of scholarly publications in the field.⁷ Therefore, satisfying the “Scholarly Articles” criterion for each of these classifications either puts a foreign national one-third of the way, or half-way, to meeting the three or two criteria minimum. And since each classification also has a criterion related to a foreign national’s “original contributions” – and especially the EB-1A and O-1A criteria that require such “original contributions” to be of “major significance in the field” – a foreign national may leverage an academic and/or professional journal’s selection process, impact factor, circulation, and overall prestige to demonstrate both the originality of their contribution and/or the significance of said contribution in the field. Likewise, each classification rewards foreign nationals who peer-review in their field.⁸ As such, a significant part of the qualifications for these three categories could be based on interactions with academic and/or professional journals and the nature of said publications.

Conclusion

Institutions of higher education can play an important role in training and supporting international students and scholars in their journey through the U.S. immigration process. These recommendations align with broader academic goals of disseminating mentoring best practices. Efforts then to support international students and scholars will bolster overall mentoring, access, and equity initiatives even for U.S. citizens.

⁷ See regulatory provisions on Employment-Based First Preference green card petitions for extraordinary ability (EB-1A), Employment-Based Second Preference green card petitions for national interest waivers (EB-2 NIW), and O-1A nonimmigrant visa petitions for extraordinary ability at 8 C.F.R. § 204.5(h)(3)(v)(vi); 8 C.F.R. § 204.5(i)(3)(i)(F); 8 C.F.R. § 214.2(o)(3)(iii)(B)(6).

⁸ See regulatory provisions for EB-1A, EB-2 NIW, and O-1A at 8 C.F.R. § 204.5(h)(3)(iv); 8 C.F.R. § 204.5(i)(3)(i)(D); 8 C.F.R. § 214.2(o)(3)(iii)(B)(4).