



Editorial

Immigrant Physics

To study the history of physics is to study migrations. Physics has historically thrived on robust international exchange and collaboration. Today, it depends on it. Central to scientific collaboration is and has been the movement of people, who bring with them new ideas and approaches that combine in useful ways with those of their adopted lands.

This issue of *Physics in Perspective* features an article by Michael Wiescher that tells one immigrant tale. A highly respected figure in his day, though relatively unknown now, the outlines of Arthur E. Haas's story will be all too familiar for students of the history of physics. As a Central European of Jewish heritage, he was among the thousands hounded from his homeland by the rise of fascism in the 1930s, despite his internationally recognized contributions to quantum physics. For Haas and others like him, being displaced was the lucky alternative to the much grimmer fate awaiting the millions who remained. Haas was able to continue his scientific career and to save his family because the United States was willing to give him a warm welcome, and a new home.

Haas's path resembles that of Enrico Fermi, Hans Bethe, Eugene Wigner, John von Neumann, and dozens of other migrant intellectuals who helped establish the United States as a leader in physics in the 1930s. Like those better-known figures, Haas secured a faculty position and remade his career in the United States, but his struggles, which Wiescher describes in this issue, tell us more than his successes. Despite being well established both as a physicist and a teacher, Haas found considerable trouble landing a job in the United States and ensuring the security of his family. Haas's difficulties remind us that precious few scholars who are displaced by political upheaval have the benefit of an international reputation and a letter of recommendation from Albert Einstein. Even those who do face an uphill battle.

The tragic antipode of the renaissance American physics enjoyed because it embraced European immigrants fleeing fascism was the dismantling of the once world-leading German physics community. In a talk at the American Physical Society meeting in Washington, DC, this past January, theoretical astrophysicist Chanda Prescod-Weinstein discussed the damage done to science by nativism, xenophobia, racism, and authoritarian excess in Nazi Germany, which corroded the institutions of German science. That corrosion was furthered by the physicists of the *Deutsche Physik* movement, who sought to impose the regime's fearsome

political orthodoxy on science itself. Far from suggesting that science should avoid politics, Prescod-Weinstein argued, this history shows that science is irreducibly full of values—which determine the questions scientists can ask, who can ask them, and how they get answered—and that scientists have a solemn responsibility to ensure that those values are turned to the causes of justice.

So it is also with the history of science, which teaches us both the power of immigration to aid in the creation of new knowledge and the perils of nativism. From its establishment in 1900 to the outbreak of World War II, only six Americans had won the Nobel Prize in Physics. Since then, eighty-six have been so honored. Many of these have been immigrants, and every one of those who are not have benefitted from the richer and more vibrant intellectual community that immigrants have helped create in the United States. Nor is this a trend of the past. Of the seven US Nobel Prize winners in 2016, all but one—Bob Dylan, the lone non-scientist—are immigrants.

As students of history in general, and the history of physics in particular, it is our duty to condemn in the strongest possible terms the vicious, bigoted, and counterproductive anti-immigration measures currently being pursued by the US executive branch. Over and above their manifest humanitarian wrongs, they diminish science worldwide and American science in particular.

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