



The State of U.S. STEM Talent and Workforce

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National Center for Science and Engineering Statistics

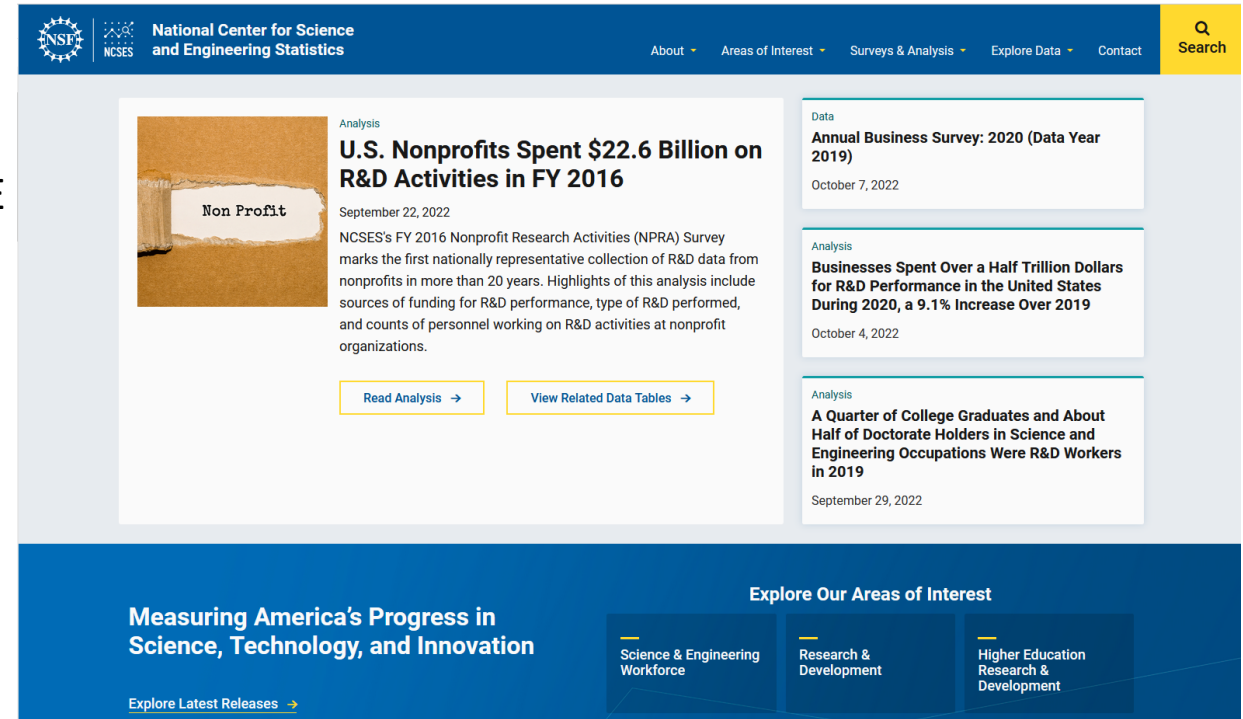
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The State of U.S. STEM Talent: Education, Workforce, & Innovation

- U.S. STEM Education



- Foreign-born S&E Doctoral Degree Recipients



- The U.S. STEM Labor Market



- The Demographic Composition of the STEM Workforce

- The Geography of the STEM Workforce and Innovation

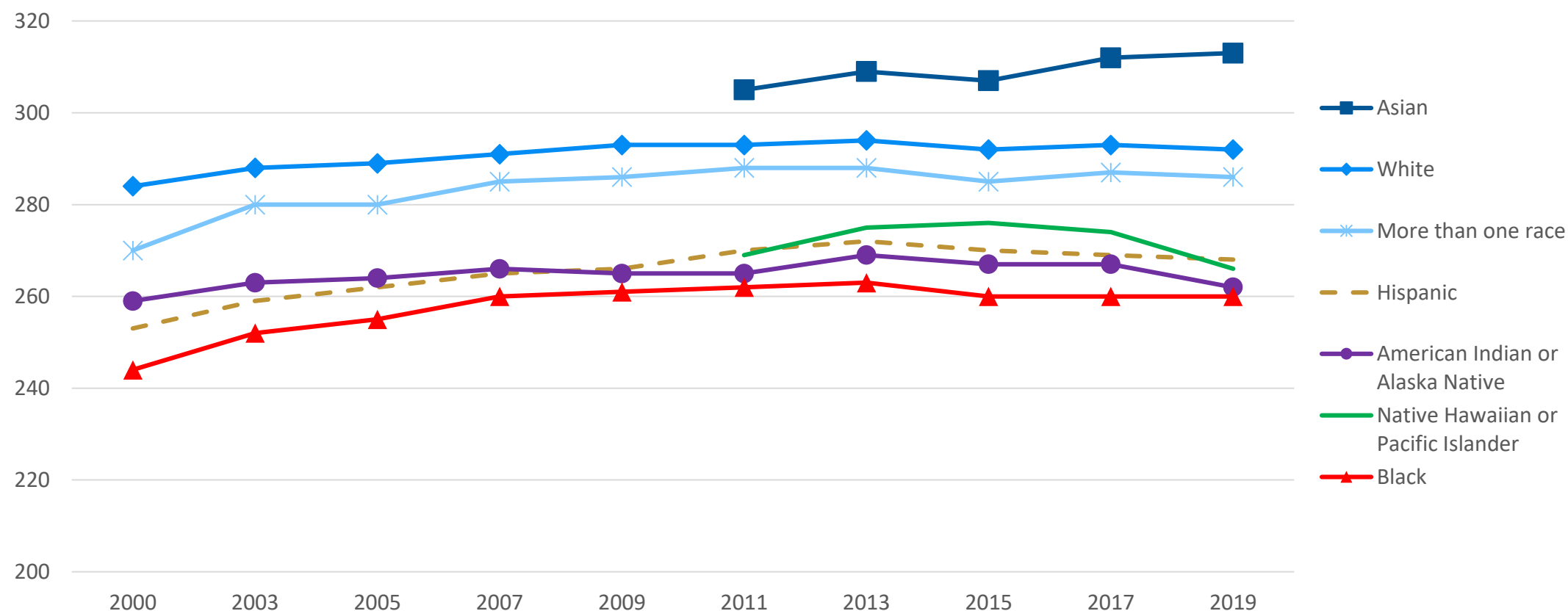




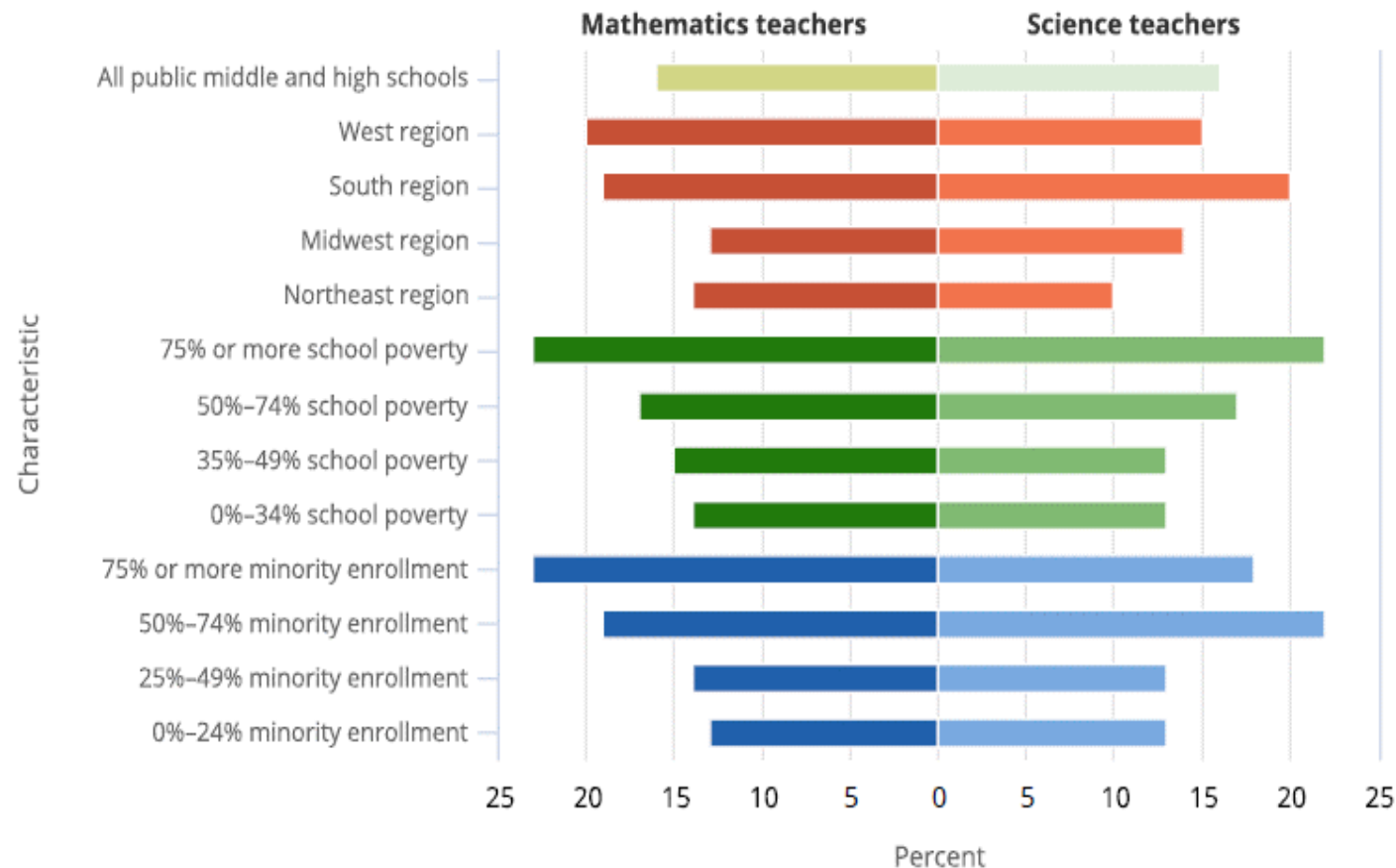
U.S. STEM Education

Minority groups consistently score lower than their White and Asian peers in mathematics assessments

Average scores of U.S. students in grade 8 on the NAEP mathematics assessment, by race or ethnicity: 2000–19



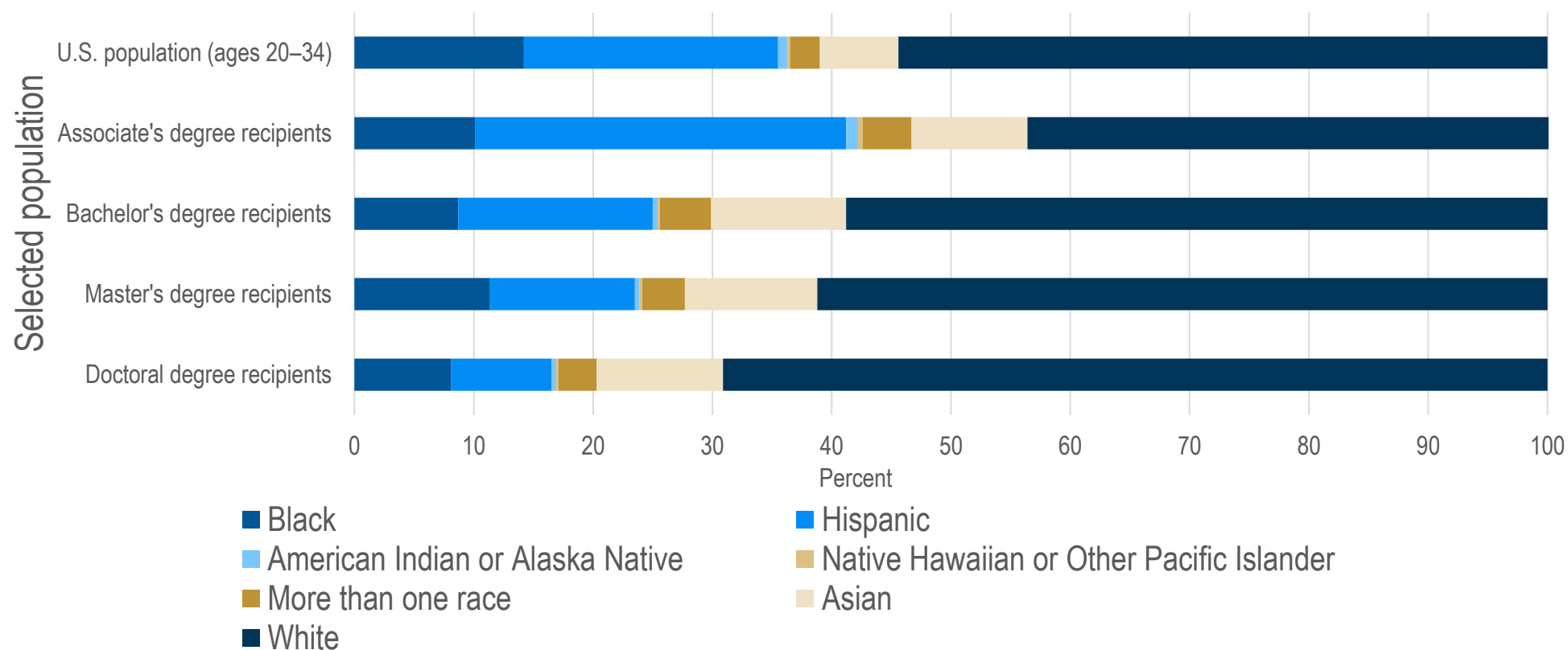
Inexperienced STEM teachers are more prevalent in high-minority, high-poverty schools



Public middle and high school mathematics and science teachers with 3 years or less of teaching experience, by selected school characteristics: 2017–18

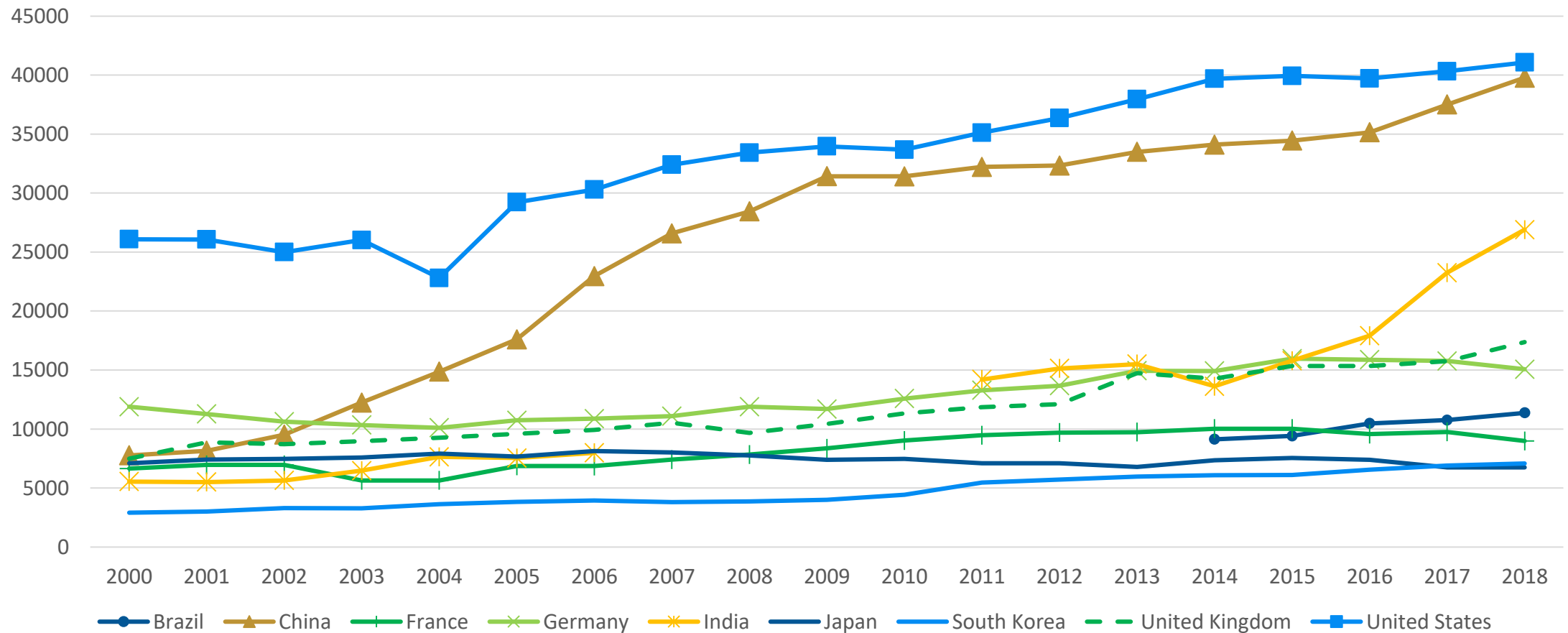
Some demographic groups are underrepresented among S&E degree recipients

Representation of race or ethnicity in the U.S. population and among S&E degree recipients: 2019



The United States and China award the most S&E doctoral degrees

S&E doctoral degrees, by selected countries: 2000–18

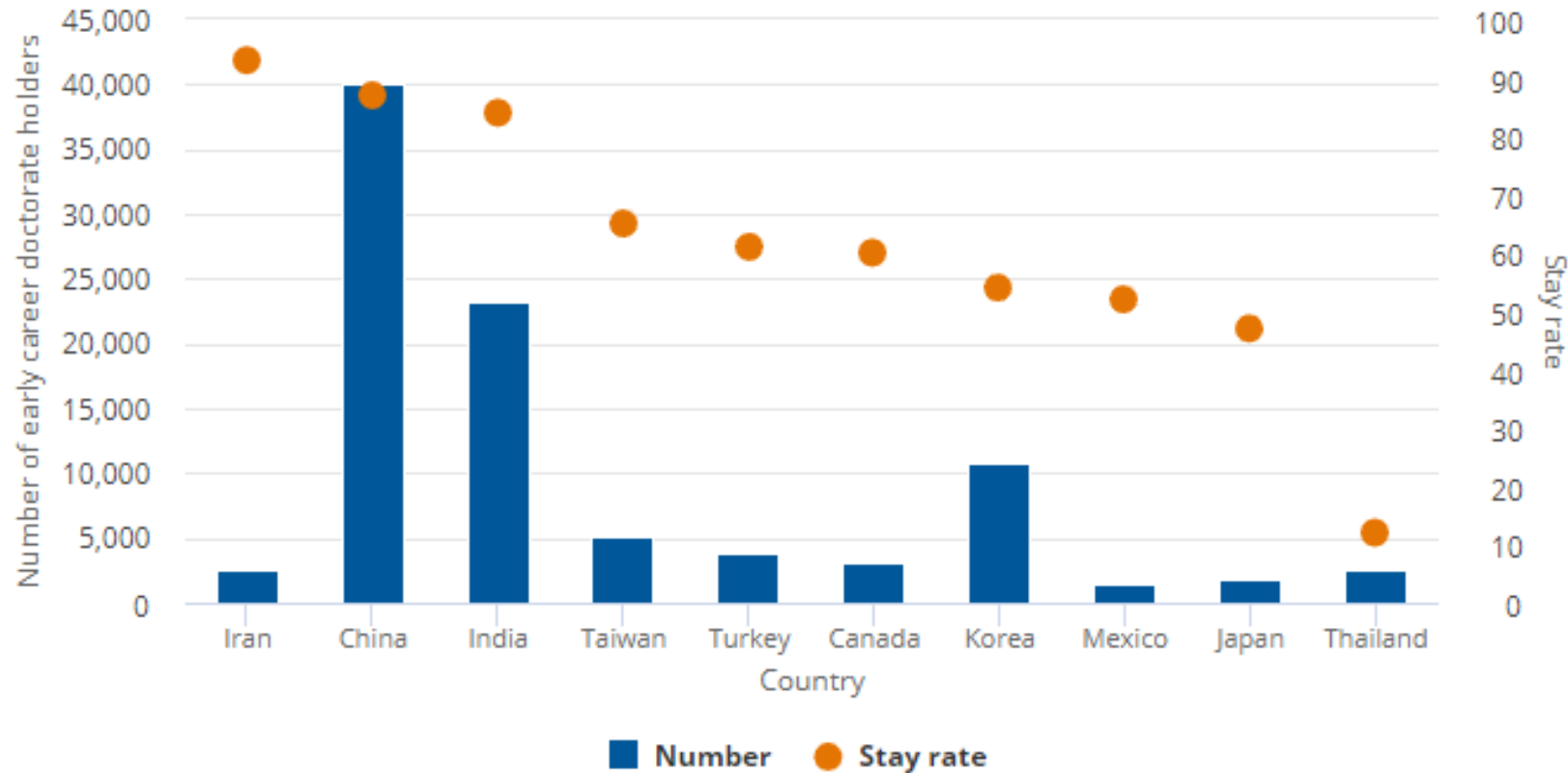


Foreign-born S&E Doctoral



Degree Recipients

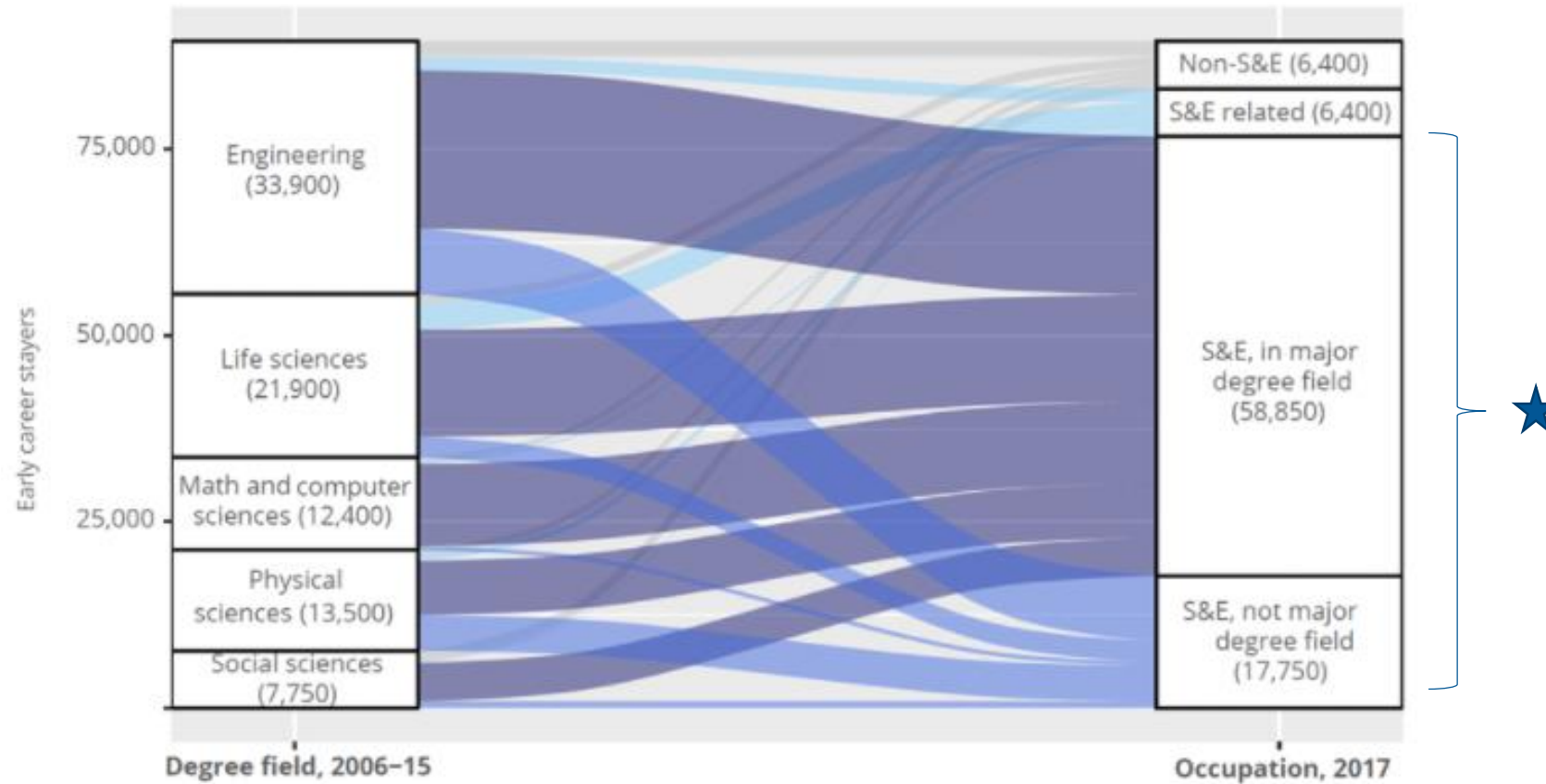
China and India are the largest source countries for U.S. S&E doctorate recipients with temporary visas at graduation



Stay rates of early career S&E doctorate holders with temporary visas at graduation (2006–15), by country of origin: 2017

Source: National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2017, and Survey of Earned Doctorates, 2006–15.

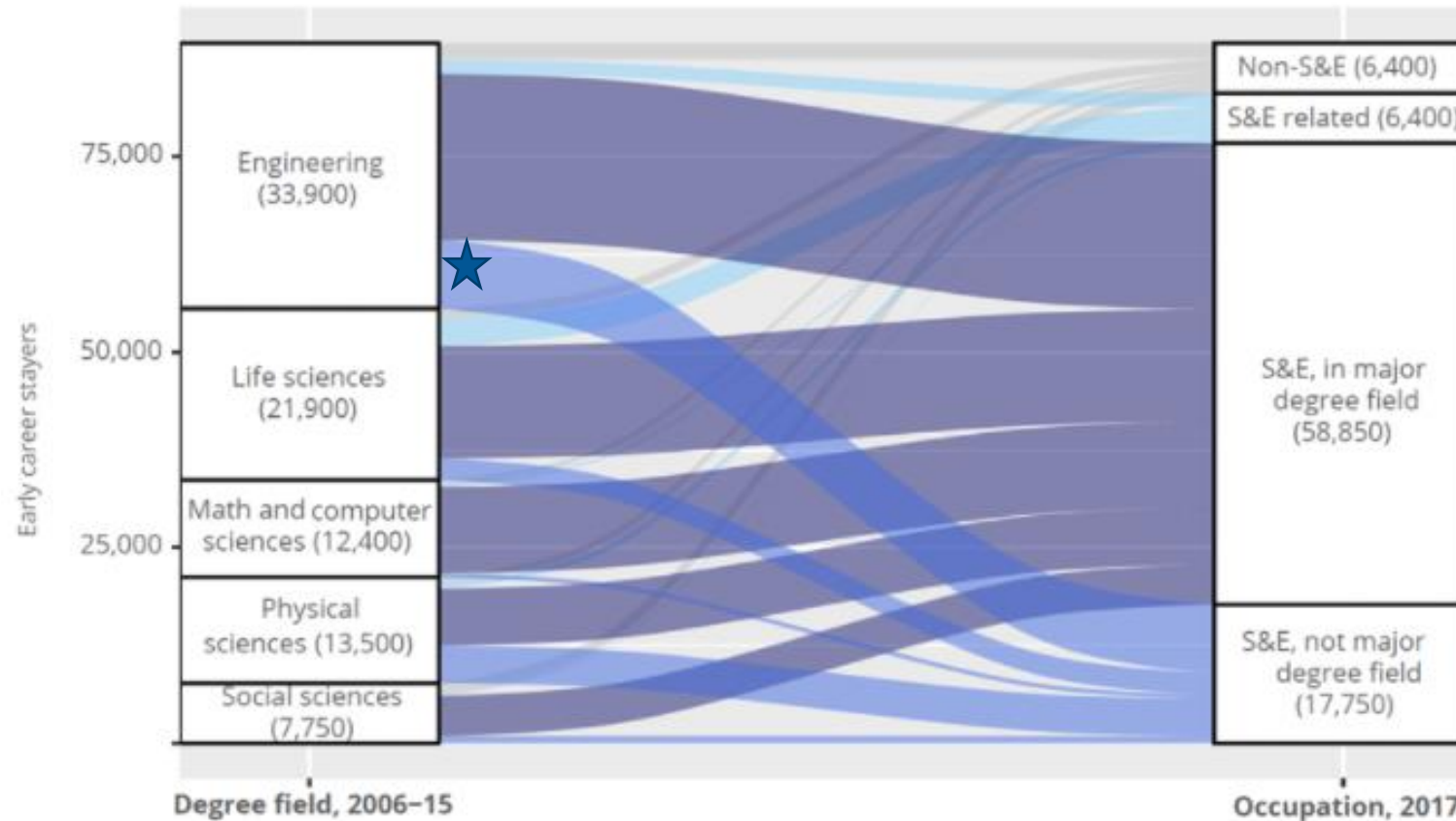
Most U.S.-trained, foreign-born S&E doctorate recipients who remain in the United States after graduation work in S&E occupations



Employment of early career stayers, by degree field at graduation (2006–15) and occupation: 2017

Source: National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2017; Survey of Earned Doctorates, 2006–15.

A large fraction of U.S.-trained, foreign-born S&E engineering doctorate recipients who remain in the United States after graduation work in S&E occupations that are not in engineering



Employment of early career stayers, by degree field at graduation (2006-15) and occupation: 2017

Source: National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2017; Survey of Earned Doctorates, 2006-15.



The U.S. STEM Labor Market

STEM workers are employed in a diverse set of occupations

Science & Engineering (S&E) occupations

Computer and mathematical scientists; biological, agricultural, and environmental life scientists; physical scientists; social scientists; engineers



S&E-related occupations

Health-related (e.g. health practitioners, health technologists), S&E managers, S&E teachers, S&E technologists, other S&E-related occupations

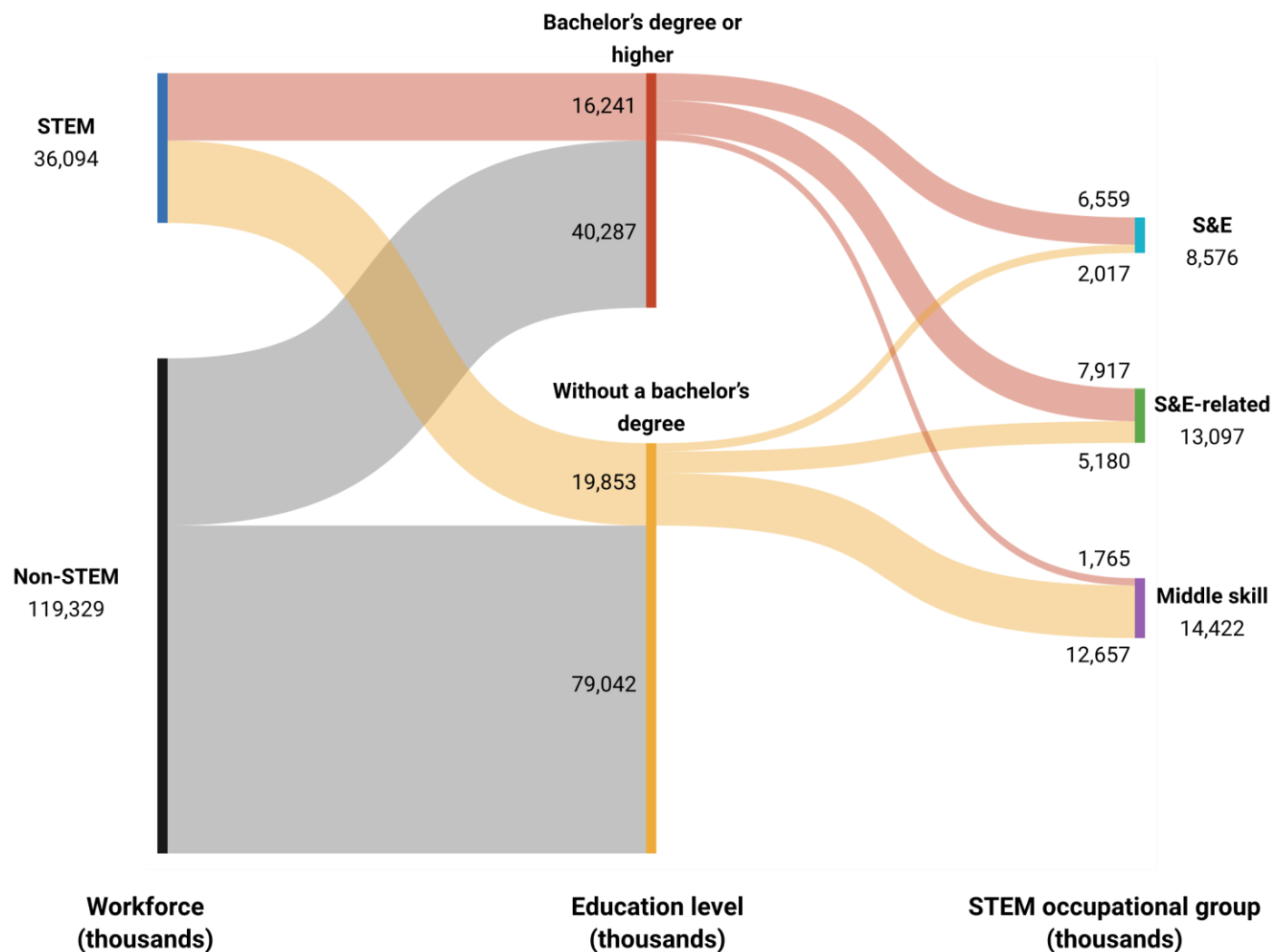


NEW: Middle-skill occupations

Construction and extraction; installation, maintenance, and repair; production; other middle-skill occupations

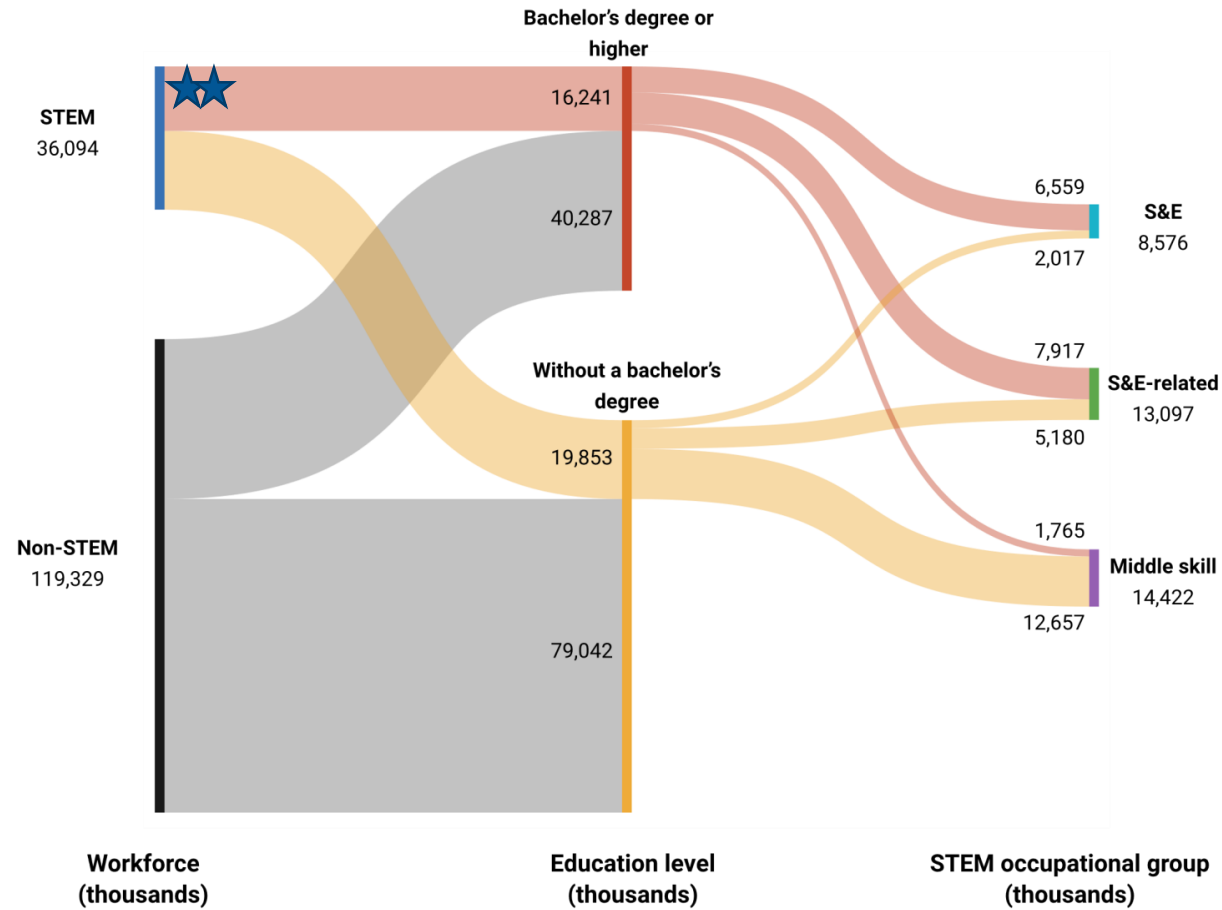


23% of the U.S. workforce are in STEM jobs

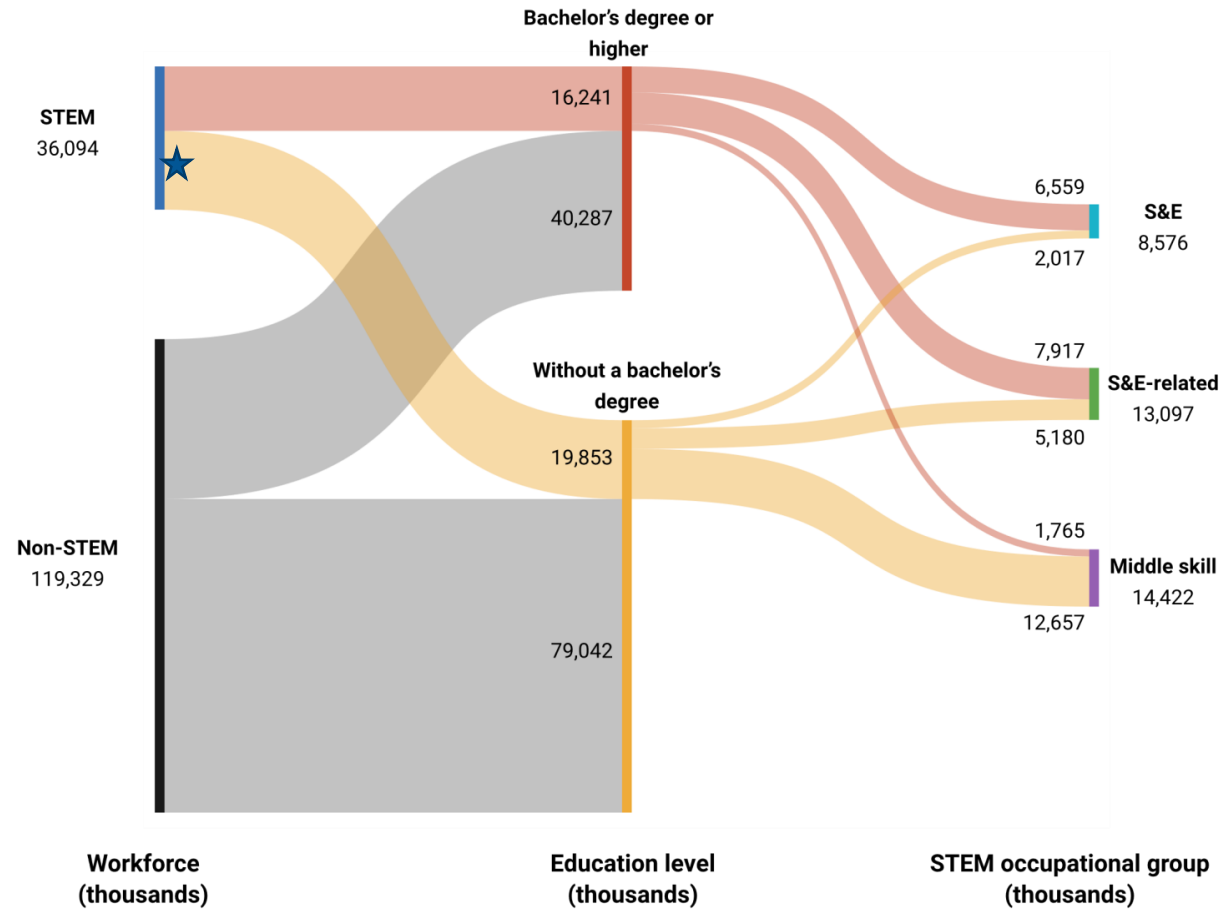


U.S. workforce, by STEM occupational group and education level: 2019

STEM workers with a BA or higher mostly work in S&E or S&E-related occupations



STEM workers without a BA mostly work in middle-skill occupations

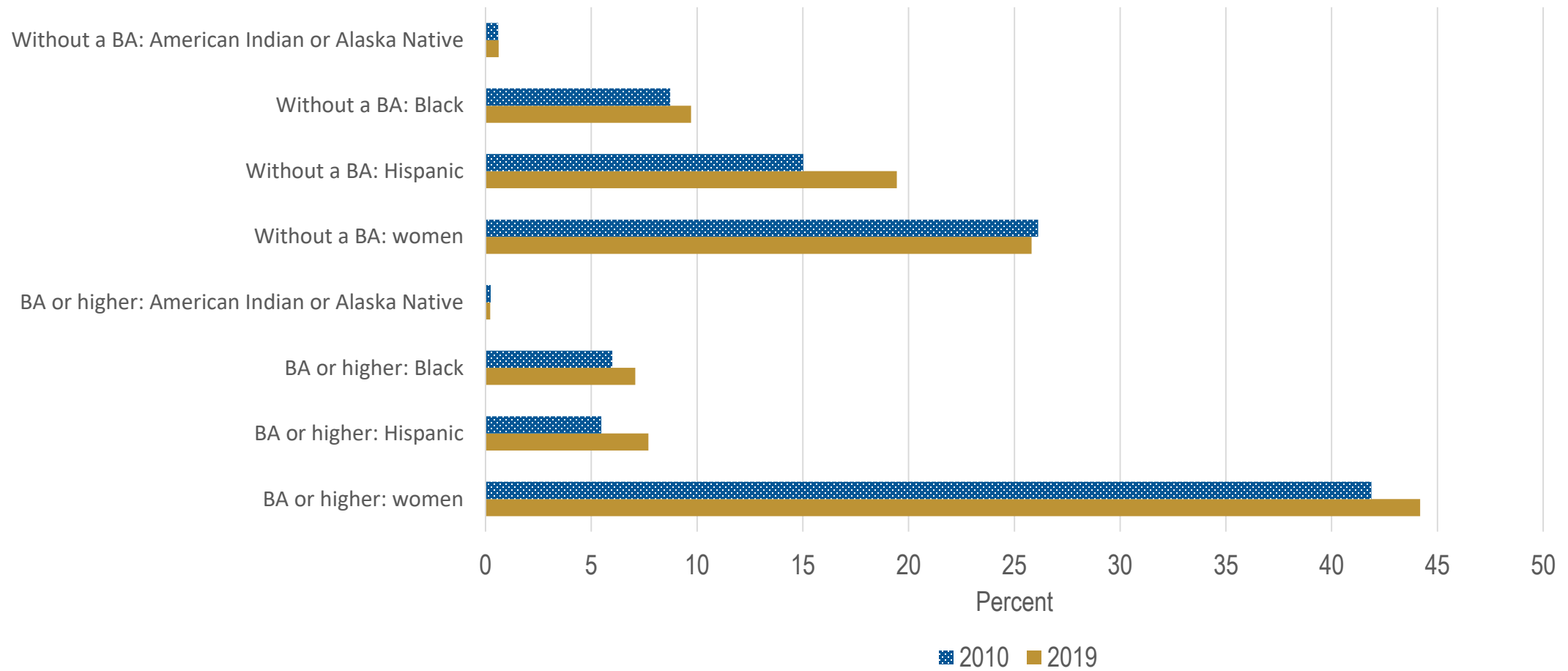


The Demographic Composition of the STEM Workforce



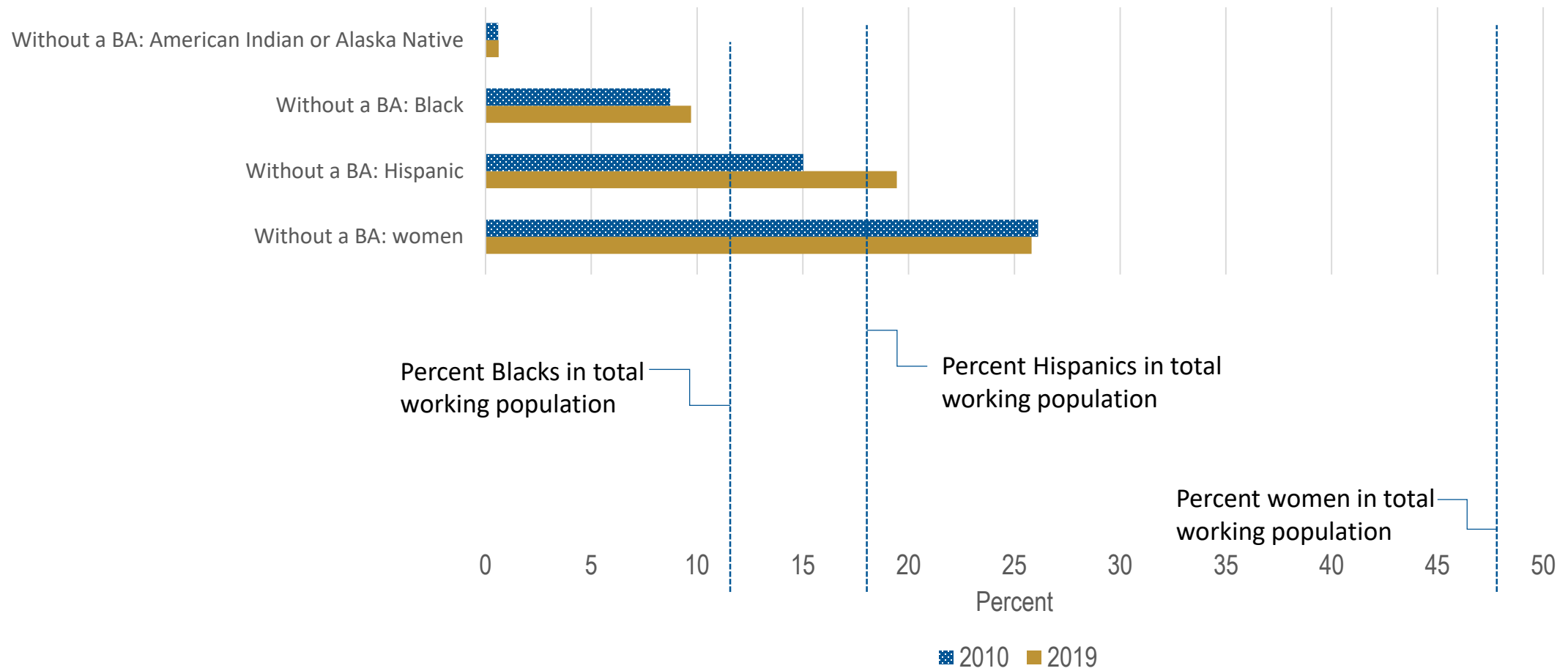
Growth in women and underrepresented minorities in the U.S. STEM workforce since 2010

Demographic composition of the STEM workforce, by selected groups: 2010 and 2019



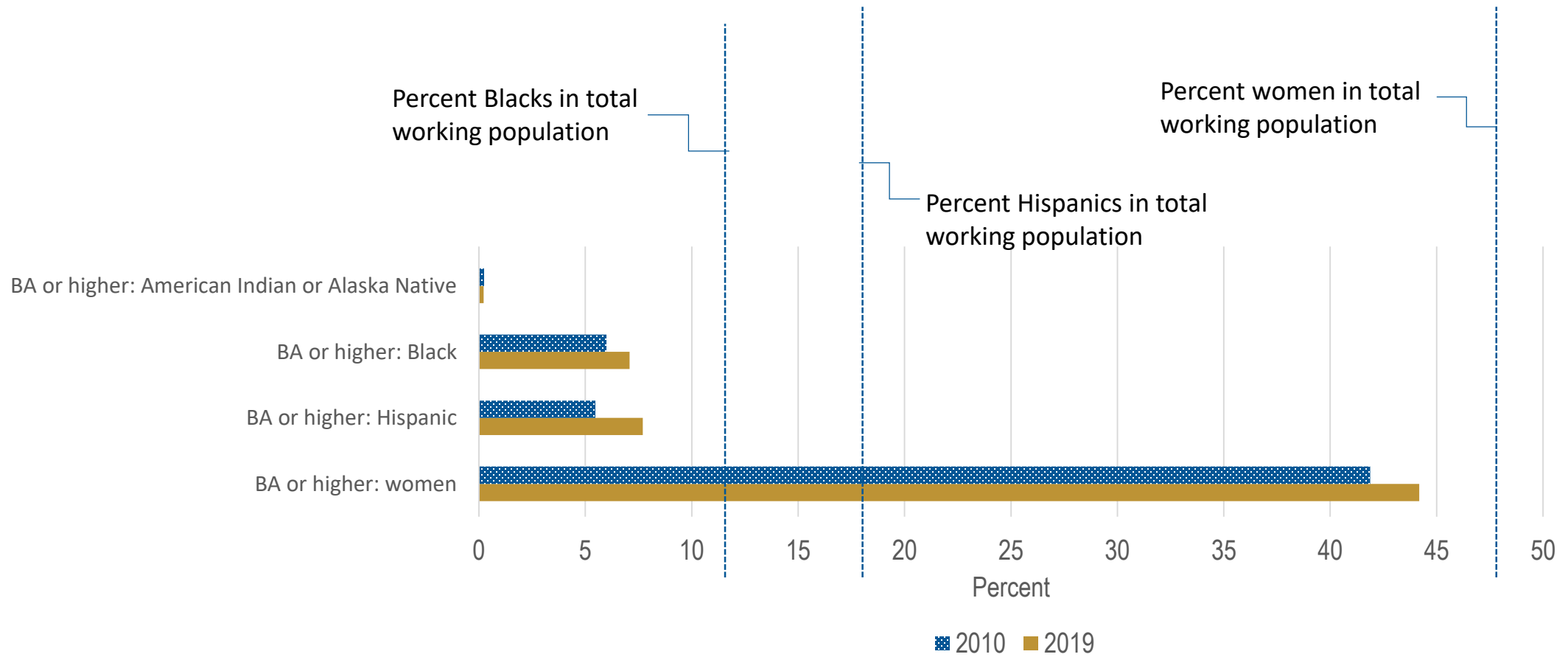
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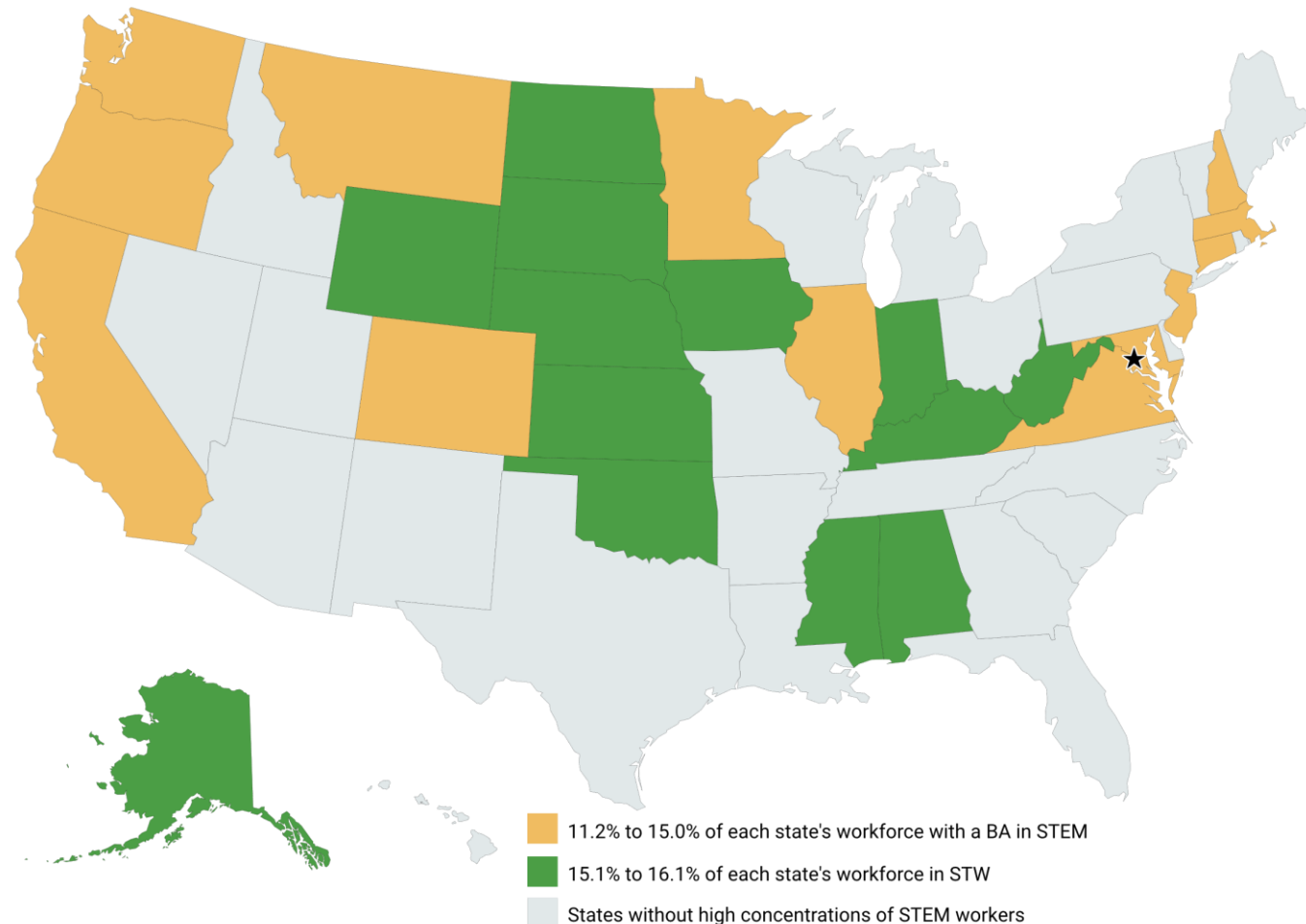




Geography of innovation

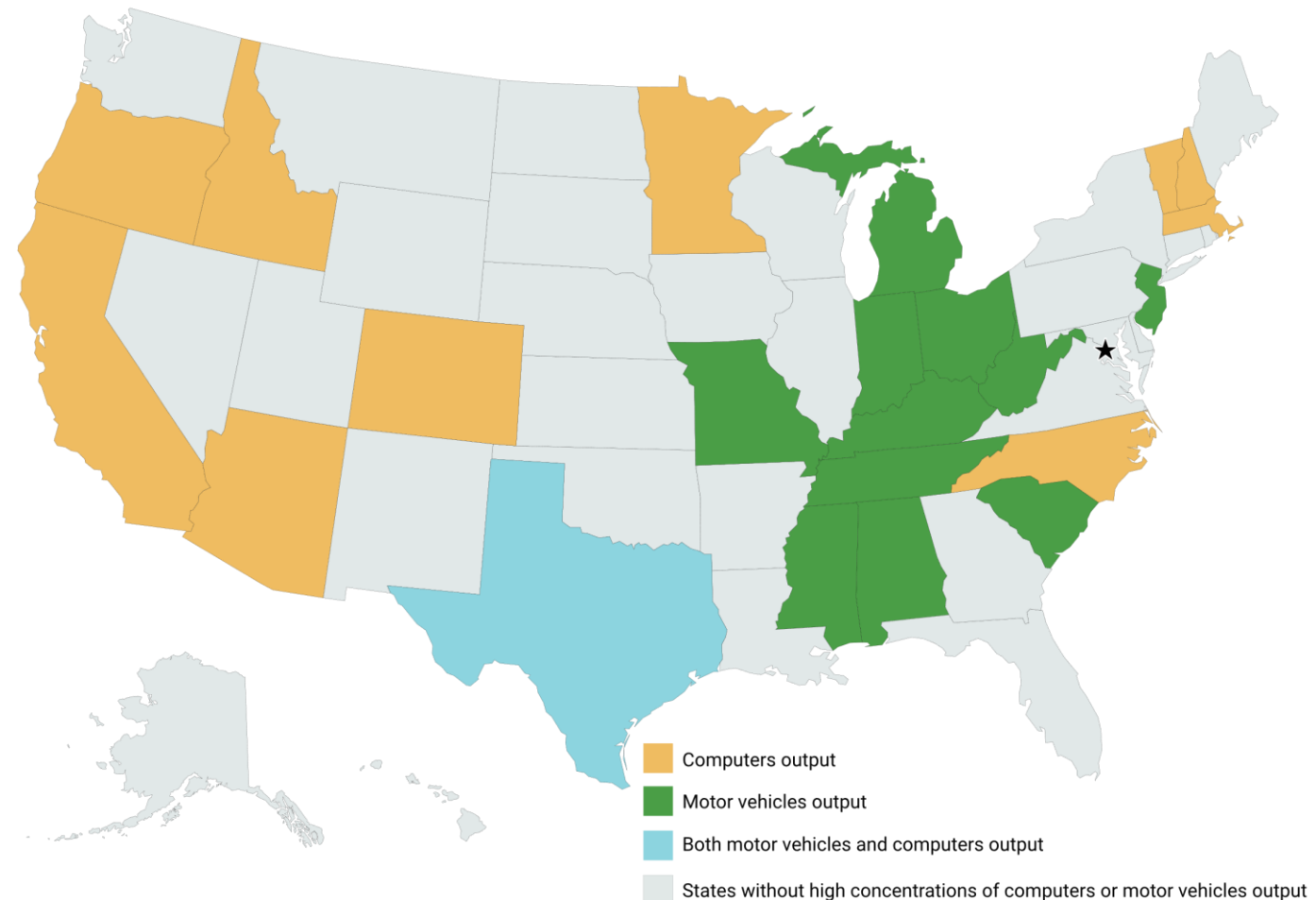
Geographical differences among bachelor's degree holders in STEM and the skilled technical workforce (STW)

High concentration of STW and STEM workers with a bachelor's degree or above, by state: 2019

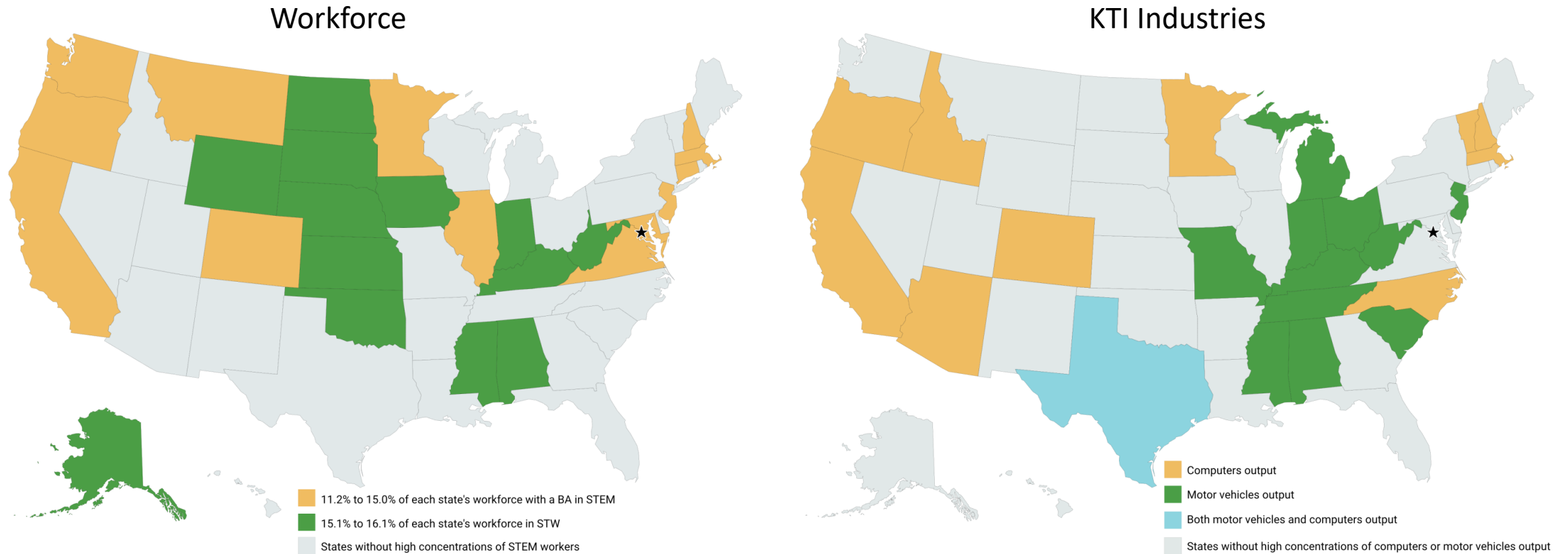


Midwest dominates motor vehicle output and coastal areas dominate computer output

High concentration of motor vehicle and computer and electronic product manufacturing output, by state: 2019



Similarities and differences in the distribution of the STEM workforce and selected KTI industries





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