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## From university to industry: more academics needed to drive innovation in commercial nuclear fusion **FREE**

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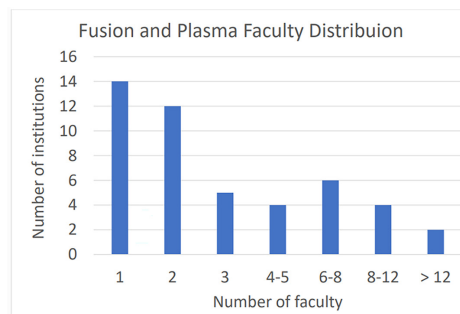


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Comparing commercial fusion to other high-tech industries like nuclear fission and aeronautics reveals more needs to be done to create tomorrow's experts in today's universities.



With the recent demonstration of scientific breakeven at the National Ignition Facility, commercial nuclear fusion has taken a major leap toward viability. As an industry at the forefront of science and technology, support from academics and universities will be crucial to its long-term success. Whyte et al. analyzed the capacity of universities to supply enough experts to drive continued growth in commercial fusion.

“As an industry, we are in a unique position because everything is brand new, but we can see what is needed to succeed,” said author Dennis Whyte. “By drawing attention to the current trajectory, hopefully, we will be in a better position to work with our colleagues in the public and private sector and make better-informed choices about how to proceed.”

The authors compared the growth of the fusion industry with nuclear fission and aeronautics, two high-tech industries of the past century. These industries thrived on pipelines from academia to deliver fresh ideas and well-trained experts. According to the authors, universities have yet to create a similar path for nuclear fusion.

“Although there are many universities with active fusion programs, there are relatively few plasma or fusion faculty members at each,” said Whyte. “We need more fusion-specific educators, especially those who focus on materials and fusion technology.”

The team encourages universities to increase collaboration with private-sector companies.

“The goal is to let each sector’s strengths complement each other without trying to become the other,” said Whyte. “Academia will never be the private sector, and vice versa. But by doing what we do best in concert, we are all better for it.”

**Source:** “The academic research ecosystem required to support the development of fusion energy,” by D. G. Whyte, C. Paz-Soldan, and B. Wirth, *Physics of Plasmas* (2023). The article can be accessed at <https://doi.org/10.1063/5.0167369>.

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