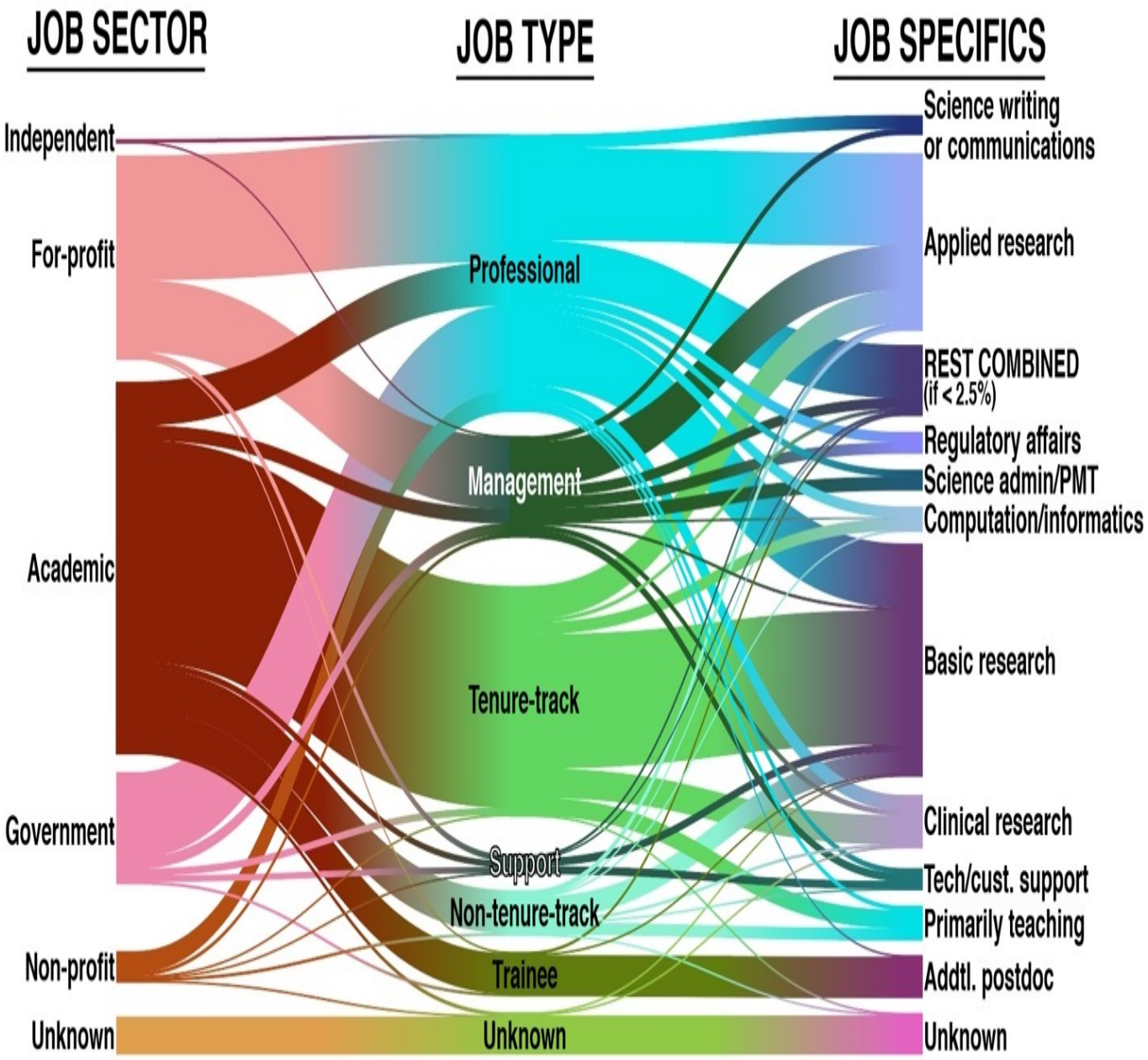
Description

Scientists looking for jobs after completing their training may soon have a new tool to help them evaluate various career paths. The new tool uses a method that was developed by scientists at the National Institute of Environmental Health Sciences (NIEHS), part of the U.S. National Institutes of Health. The method differs from others in that it separates employment trends in biomedical science into three tiers—job sector, job type, and job specifics. The creators hope this novel approach will be useful throughout NIH, as well as for academic and research institutions around the world.

The tier defining job types creates a framework for categorizing not only positions commonly found in academia, such as tenure-track, but also a variety of different position types that are not faculty-based. This framework also offers a method for classifying positions by level, such as mid-level professional staff positions, in addition to higher-level, executive managerial roles frequently found in the for-profit sector. The next tier—job specifics—defines the nature of the work being carried out within each job type—whether primarily basic research, applied research, science writing/communication, teaching, etc.

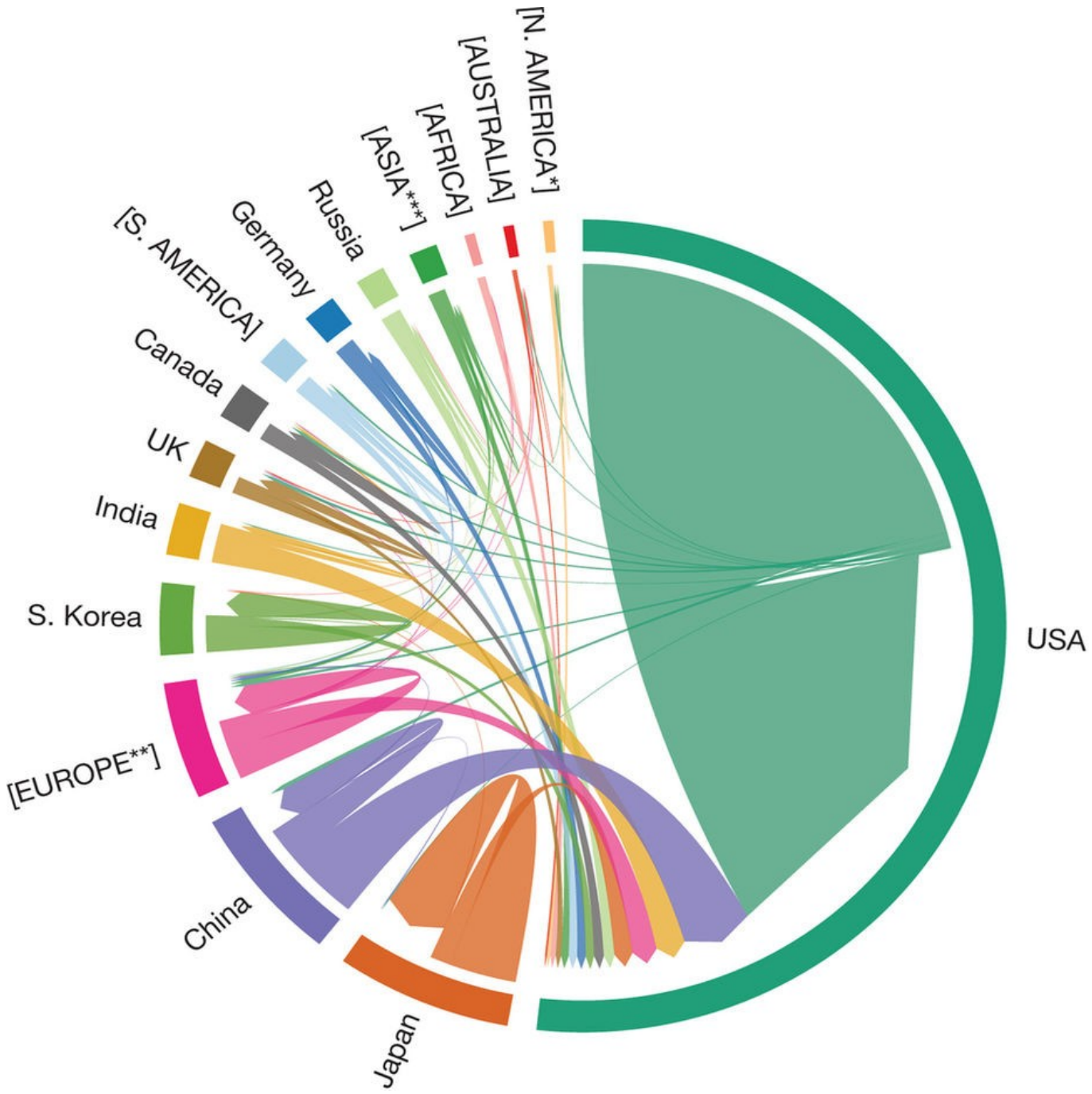
(Click to enlarge image)



Connecting the job sector, job type, and job specifics data reveals the diversity of job types held within each sector, and illustrates what individuals are specifically doing within each job type. (Image courtesy of Tammy Collins)

Led by Tammy Collins, Ph.D., Director of the NIEHS Office of Fellows' Career Development, team members collected detailed career outcomes for nearly 900 NIEHS postdoctoral fellows over the past 15 years and used the categorization framework to standardize how careers were classified. Lead author Hong Xu analyzed the data using the R Language for Statistical Computing, and Shyamal Peddada, Ph.D. served as a key advisor. The study appeared online in the journal *Nature Biotechnology* and is the first standardized method for categorizing career outcomes of NIEHS postdocs.

(Click to enlarge image)



Visualizing postdoc alumni migration by pairing country/continent of origin with country/continent of job location (arrows point to job

locations). (Image courtesy of Tammy Collins)

The team found striking differences between postdocs from the United States and international postdocs in the kinds of jobs they landed. In an almost 2:1 ratio, international postdocs entered into academic tenure-track positions to conduct basic research, but most of this subpopulation entered these tenure-track positions abroad. Postdocs in the U.S. tended to enter for-profit companies to do applied research. Overall, nearly half of all NIEHS postdocs went into the academic sector.

An in-depth location analysis that mapped the movement of NIEHS postdocs around the globe found that career paths were heavily influenced by both the postdoc's country of origin and the location of postdoc training. A large proportion of postdocs became employed in North Carolina, the location of NIEHS. On the other hand, a large proportion of international postdocs entered into careers in their home countries, with fellows from Japan and South Korea returning at the highest rates. Career paths were also influenced by the discipline of study; for instance, those with degrees in biostatistics and epidemiology entered into tenure-track positions at a higher frequency than other fields.

Aside from tenure-track positions, postdocs chose other career paths such as consulting, grants management, science policy, etc. "This study demonstrates that NIEHS postdocs are using their science backgrounds to make positive contributions to society in a wide variety of ways. I can't wait to follow the career progression of our former postdocs over time and witness their continued success," Collins said.

Collins noted that having this institution-level information will allow current trainees to evaluate their career prospects based on real data, rather than anecdotes. Likewise, prospective trainees will be able to better gauge whether a program matches their career interests compared to others. This information will also allow organizations to critically evaluate their program's effectiveness so that data-driven decisions can be made to best support trainee transitions into the modern career environment.

The article was adapted from this NIH Press Release.

Reference

Xu H, Gilliam RST, Peddada SD, Buchold GM, Collins TRL. 2018. Visualizing detailed postdoctoral employment trends using a new career outcome taxonomy. Nat Biotechnol; doi: 10.1038/nbt.4059. Feb;36(2):197-202. Retrieved from https://www.nature.com/articles/nbt.4059

Tammy Collins is Director of the NIEHS Office of Fellows' Career Development. (Photo courtesy of Steve McCaw)

Hong Xu is a Data Analyst and Program Manager of the NIEHS Office of Fellows' Career Development. (Photo courtesy of Steve McCaw)

Category

1. Career Corner
2. PhDs & Postdocs

Date Created
2018/03/13
Author
daveishan