



TheScientist

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BEST  
PLACES  
TO WORK  
2006

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POSTDOCS

BY TED AGRES

**W**hether they are in North America, Europe, or the Middle East, this year's top-ranking research institutions in *The Scientist's* Best Places to Work survey offer postdocs such important features as collaborative, intellectually challenging environments, quality research facilities, and flexibility in designing and conducting research projects.

However, these institutions vary widely in addressing other needs and desires of their postdocs. Some facilities offer a range of programs in accordance with National Postdoctoral Association (NPA) guidelines.<sup>1</sup> Others offer little, if any, support beyond having a well-funded facility and world-class scientists (which apparently can compensate for otherwise benign neglect).

Postdocs worldwide have common concerns, judging by the NPA guidelines, a set of white-paper recommendations that *The Scientist* published,<sup>2</sup> and comments submitted ▶

## Top 35 Institutions in North America

Rank	Rank in 2005	Name/Location	Country	Type	Strengths		Weaknesses	
1	12	The J. David Gladstone Institutes, San Francisco	USA	Independent	Networking	Family	Benefits	Remuneration
2	2	Fred Hutchinson Cancer Research Center, Seattle	USA	Private	Career	Communication	Family	Equity
3	1	US Environmental Protection Agency, Research Triangle Park, NC	USA	Government	Benefits	Remuneration	Funding	Equity
4	22	Emory University, Atlanta, GA	USA	Academic	Family	Communication	Career	Value
5	3	National Institute of Environmental Health Sciences, Research Triangle Park, NC	USA	Government	Facilities	Communication	Funding	Benefits
6	40	Fox Chase Cancer Center, Philadelphia	USA	Private	Training	Communication	Value	Family
7	15	National Institute of Diabetes & Digestive & Kidney Diseases, NIH, Bethesda, MD	USA	Government	Networking	Career	Family	Benefits
8	6	Wadsworth Center, Albany, NY	USA	Government	Training	Family	Funding	Career
9	4 in nonUS	Dalhousie University, Halifax, Nova Scotia	Canada	Academic	Funding	Remuneration	Benefits	Training
10	66	USDA Agricultural Research Service, Beltsville, MD	USA	Government	Remuneration	Benefits	Funding	Career
11	9	Woods Hole Oceanographic Institution, Woods Hole, MA	USA	Independent	Career	Remuneration	Facilities	Benefits
12	—	Boyce Thompson Institute for Plant Research, Ithaca, NY	USA	Independent	Communication	Facilities	Value	Remuneration
13	8	National Cancer Institute, Bethesda, MD	USA	Government	Networking	Funding	Equity	Benefits
14	—	Donald Danforth Plant Science Center, Saint Louis	USA	Independent	Facilities	Networking	Communication	Family
15	28	Vanderbilt University, Nashville, TN	USA	Academic	Funding	Career	Training	Equity
16	73	Cornell University, Ithaca, NY	USA	Academic	Benefits	Communication	Value	Funding
17	88	Harvard Medical School, Boston, MA	USA	Academic	Value	Communication	Funding	Remuneration
18	—	US Environmental Protection Agency, Cincinnati, OH	USA	Government	Remuneration	Benefits	Training	Equity
19	23	University of Alabama at Birmingham	USA	Academic	Career	Training	Benefits	Equity
20	—	National Institute of Diabetes and Digestive and Kidney Diseases, Phoenix, AZ	USA	Government	Equity	Value	Benefits	Funding
21	57	University of California, Davis	USA	Academic	Value	Equity/Benefits	Communication	Funding
22	36	Duke University, Durham, NC	USA	Academic	Value	Career	Networking	Funding
23	16	Medical College of Wisconsin, Milwaukee	USA	Academic	Career	Communication	Benefits	Equity
24	20	Mayo Clinic, Rochester, MN	USA	Independent	Facilities	Training/Career	Funding	Networking
25	—	University of Illinois, Urbana	USA	Academic	Benefits	Equity	Remuneration	Career
26	13	Massachusetts Institute of Technology, Cambridge	USA	Academic	Networking	Facilities	Funding	Remuneration
27	49	Rockefeller University, New York	USA	Academic	Career	Value	Remuneration	Family
28	10	Washington University, Saint Louis, MO	USA	Academic	Value	Remuneration	Networking	Equity
29	11	The University of Texas M.D. Anderson Cancer Center, Houston	USA	Academic	Funding	Career/Facilities	Networking	Value
30	97	National Institutes of Health, Bethesda, MD	USA	Government	Training	Career	Equity/Family	Benefits
31	51	University of California, San Francisco	USA	Academic	Career	Funding	Family	Remuneration
32	44	University of Iowa, Iowa City	USA	Academic	Family	Remuneration	Training	Career
33	104	The University of Texas Health Science Center at San Antonio	USA	Academic	Benefits	Remuneration	Funding	Career
34	—	North Dakota State University, Fargo	USA	Academic	Benefits	Facilities	Remuneration	Career
35	6	University of North Carolina at Chapel Hill	USA	Academic	Career	Funding	Facilities	Benefits

in this year's survey. Postdocs want knowledgeable principal investigators and mentors who have genuine interest in their research and personal development. They desire clarity in their research program with clearly defined goals and feedback measurements. They seek training in grant writing and other career development skills. They want to be compensated adequately and receive medical, retirement, and other employee benefits. Perhaps most importantly, they crave a greater sense of security about their future careers (see "Assessing the Postdoc Experience" on pp. 56-57).

The J. David Gladstone Institutes in San Francisco pays close attention to its postdocs' needs. John LeViathan, postdoc adviser and human resources manager, says Gladstone follows NPA guidelines, offering excellent salaries and employee benefits, emphasizing mentoring, career and professional development, and making wide use of surveys and meetings to monitor progress. Gladstone jumped from 12th place in 2005 to first place in North America this year. "Postdocs are fully involved in the process," LeViathan says. "They are in the driver's seat." But it's not all warm and fuzzy. Like other top institutions, Gladstone has a strong research base.

## Top 35 Institutions Outside of North America

Rank	Rank in 2005	Name/Location	Country	Type	Strengths		Weaknesses	
1	45	Friedrich Miescher Institute for Biomedical Research, Basel	Switzerland	Independent	Facilities	Remuneration	Value	Benefits
2	—	MRC Laboratory of Molecular Biology, Cambridge	UK	Government	Equity	Value	Benefits	Remuneration
3	11	University of Bergen	Norway	Academic	Benefits	Value/Family	Funding	Facilities
4	26	Weizmann Institute of Science, Rehovot	Israel	Academic	Equity	Facilities	Networking	Benefits
5	—	Pasteur Institute, Paris	France	Independent	Benefits	Networking	Remuneration	Communication
6	1	Umea Plant Science Center	Sweden	Academic	Value	Networking	Benefits	Training
7	23	University of Dundee	UK	Academic	Training	Career	Benefits	Funding
8	—	University of Basel Biozentrum	Switzerland	Academic	Value	Equity	Benefits/Family	Funding
9	—	ETH Zurich	Switzerland	Academic	Equity	Remuneration	Training/Family	Value
10	60	University of Manchester	UK	Academic	Career	Facilities	Benefits	Family
11	3	The Netherlands Cancer Institute, Amsterdam	Netherlands	Government	Career	Networking/ Funding	Training	Family
12	24	Catholic University of Leuven	Belgium	Academic	Remuneration	Family	Value	Communication
13	46	University of Helsinki	Finland	Academic	Funding	Communication	Value	Remuneration
14	61	University of Nottingham	UK	Academic	Communication	Remuneration	Networking	Equity
15	35	University of Edinburgh	UK	Academic	Training	Benefits	Career	Value
16	34	University of Birmingham	UK	Academic	Family	Value	Benefits	Facilities
17	17	Ghent University	Belgium	Academic	Networking	Funding	Family	Communication
18	12	Cardiff University	UK	Academic	Career	Communication	Networking	Funding
19	—	National Institute for Medical Research, London	UK	Government	Benefits	Facilities	Remuneration	Networking
20	52	University of Aberdeen	UK	Academic	Value	Remuneration	Training	Facilities
21	58	Leiden University	Netherlands	Academic	Funding	Remuneration	Training	Career
22	22	University of Oxford	UK	Academic	Funding	Family	Communication/ Equity	Remuneration
23	40	University of Glasgow	UK	Academic	Family	Value	Facilities	Benefits
24	39	University of Liverpool	UK	Academic	Training	Facilities	Career	Equity
25	38	University of Cambridge	UK	Academic	Equity	Remuneration	Benefits	Family
26	42	John Innes Center, Norwich	UK	Independent	Training	Career/Value	Benefits	Funding
27	36	Trinity College Dublin	UK	Academic	Networking	Family	Funding	Benefits
28	—	University of Sheffield	UK	Academic	Training	Networking/ Benefits	Value	Career
29	27	University College London	UK	Academic	Funding	Remuneration	Facilities	Family
30	47	University of Leicester	UK	Academic	Family	Funding	Communication	Equity
31	43	Erasmus Medical Center, Rotterdam	Netherlands	Academic	Equity	Family	Remuneration	Training
32	54	Imperial College London	UK	Academic	Training	Career	Funding	Remuneration
33	—	Ludwig-Maximilians University, Munich	Germany	Academic	Facilities	Equity	Remuneration	Career
34	53	Autonomous University of Barcelona	Spain	Academic	Family	Communication	Training	Value
35	41	Karolinska Institute, Stockholm	Sweden	Academic	Networking	Funding	Communication/ Equity	Remuneration

As postdoc Danny Hatters puts it, “working with top-class and motivated scientists” is what’s most important.

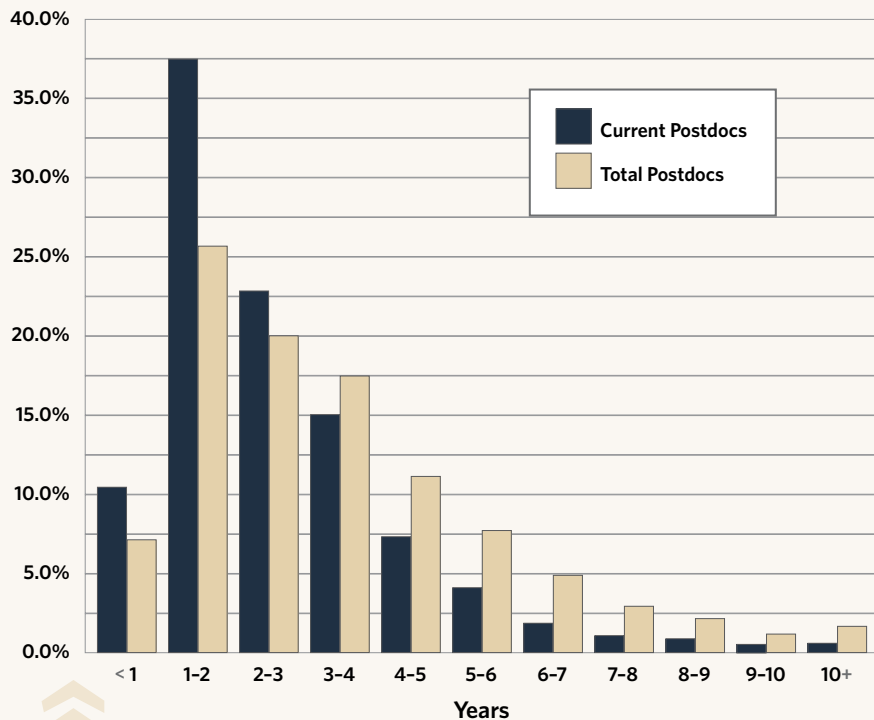
At the other end of the postdoc care and feeding spectrum is the Medical Research Council Laboratory of Molecular Biology (LMB) in Cambridge, UK. Lacking any special programs or activities for postdocs, LMB came in second place outside of North America. “We just focus on science,” explains Matthew Freeman, a senior group leader in developmental biology with six postdocs working in his lab. “There is a strong, interactive atmosphere here,” Freeman says. “Research is number one; everything else is

secondary.” The postdocs agree. “The strong informal relationship with my PI and the amount of time he is willing to spend helping with my research” is most appreciated by one LMB postdoc, who did not wish to be named.

When it comes to giving postdocs appreciation, respect, and freedom, the 11th-place Netherlands Cancer Institute (NKI) in Amsterdam excels. Research projects are designed with clear objectives and metrics, yet postdocs have considerable freedom to conduct independent research, says Peter Peters, NKI’s dean of postdoc affairs. Each year the institute’s 75 postdocs organize a ▶

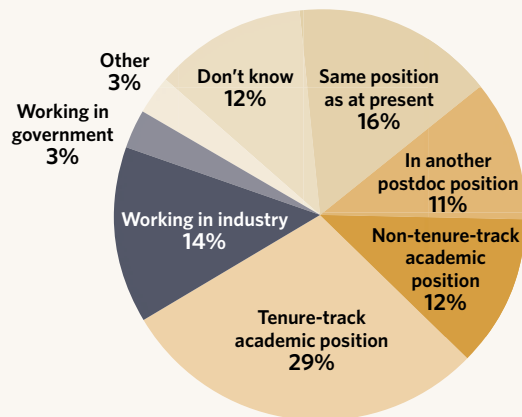
## ASSESSING THE POSTDOC EXPERIENCE

### Length of Postdocs

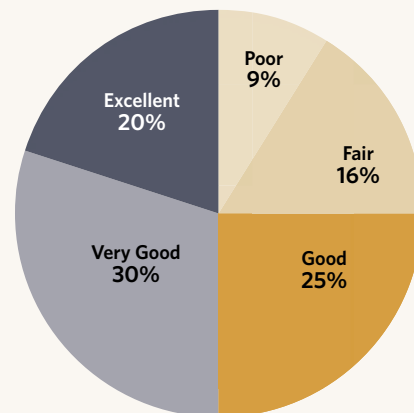


The average length of time postdocs plan to spend in their current position is two years. While the average length of time that life scientists spend in postdoc positions overall is only three years, almost one-fifth (18.6%) spend five years or more in postdoc positions, according to this year's survey respondents. In North America only 15.3% endure for five years or more, but in Europe and Israel almost one third of responding postdocs (32.4%) are in for the long haul (data not shown).

### Expected Job Two Years from Now



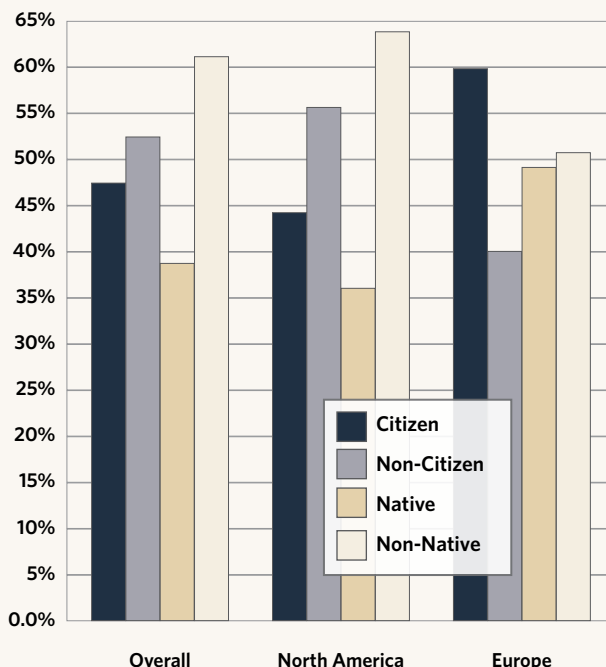
### Level of Satisfaction with Current Postdoc Position



While a majority (75%) of survey respondents describe their current postdoc positions as Good, Very Good, or Excellent, they aren't as sanguine about their futures. Only 14% expect to have a job in industry in the next two years—a low percentage considering the number of jobs available in that sector of the life sciences. Over one quarter (29%) expect to hold a tenure-track academic position; but between 1993 and 2001 the number of tenure-track assistant professorships at major research universities remained steady at approximately 1,200<sup>1</sup>—not nearly enough jobs for the almost 20,000 PhD life scientists in the United States. Another quarter (27%) plan to stay where they are or move to another postdoc position (see Length of Postdocs graph). More than 10%, however, don't know where they'll be in two years—a slightly disconcerting position for the many postdocs married with children.

1. B. L. Brenderly, "The incredible shrinking tenure track," *Science's NextWave*, July 2, 2004.

### Country of Birth and Citizenship



The majority of survey respondents (52.5%) say that they are not citizens of the countries in which they're currently working, and North America has a higher percentage of non-citizen postdocs (55.7%) than Europe and Israel (40.1%). Almost half of the postdocs working outside of North America (49.2%) were born in the country in which they're working, while only 36.1% of North American postdocs were born in their country of current employment.

## Most Important Factors

Rank in North America in 2006	Rank in the US in 2005	Factor	Category	Rank outside North America in 2006	Rank outside the US in 2005
1	1	The training and experience I receive as a postdoc will be valuable to me in my future career.	Value of the Postdoc Experience	3	3
2	2	I have access to the books and journals I need for my research.	Quality of Facilities and Infrastructure	1	1
3	4	My institution provides the equipment and supplies I need for my research.	Quality of Facilities and Infrastructure	2	2
4	6	My institution provides full medical insurance for me and my family at an affordable rate.	Benefits	40	28
5	3	My principal investigator takes time to discuss the science behind the experiments and other work that I do.	Quality of Training and Mentoring	4	4
6	5	My principal investigator makes time available to discuss issues that arise in my research.	Quality of Communication	5	5
7	7	I have learned much from my principal investigator about how to succeed as a scientist.	Quality of Training and Mentoring	23	15
8	13	The money I receive is adequate to cover my expenses and provide for reasonable leisure activities, considering the cost of living in my community.	Remuneration and Compensation	6	14
9	8	My principal investigator discusses my career outlook and available options and opportunities.	Career Development Opportunities	11	13
10	9	My principal investigator communicates expectations and feedback clearly.	Quality of Communication	19	7
25	34	There is no discrimination against postdocs based on their religious beliefs or ethnic background.	Equity	7	27
19	19	I can easily talk with other members of the lab about any problems that arise and they can talk with me.	Quality of Communication	8	17
23	—	I have opportunities to interact with high-quality researchers from other departments and institutions.	Networking Opportunities	9	—
16	14	My institution supplies the technical support and services I need for my research.	Quality of Facilities and Infrastructure	10	8

This year's survey respondents consider factors relating to the quality of facilities and infrastructure to be essential to their workplace satisfaction: three factors in that category rank among the most important. Quality of training and mentoring, especially relating to principal investigator, also ranks highly; however, factors relating to safety, while in the same category, fall among the least important. Respondents place emphasis on the quality of communication within the lab (two factors in

the top 14), but consider communication in the larger institutional setting relatively unimportant (two factors in the bottom six). As in years past, medical insurance benefits—ranked 4th in North America—aren't as important to European scientists, and access to literature remains high on the list (see Editorial on p. 13). However, fair treatment regardless of religion or ethnicity is significantly more important for European postdocs this year than in previous surveys.

## Least Important Factors

Rank in North America in 2006	Rank in the US in 2005	Factor	Category	Rank outside North America in 2006	Rank outside the US in 2005
48	43	My institution enforces laboratory safety standards and provides adequate general safety training.	Quality of Training and Mentoring	45	38
47	—	My institution provides adequate safety training for working with select agents (potential bioterrorism toxins and organisms).	Quality of Training and Mentoring	48	—
46	—	My institution has adequate and clear procedures for resolving disputes with colleagues and supervisors.	Quality of Communication	47	—
45	—	The bureaucracy at my institution is transparent and easy to navigate.	Quality of Communication	43	—
44	—	I am not pressured to publish the results of my research.	Value of the Postdoc Experience	46	—
42	44	My institution has an effective postdoc office, association, or advisor.	Career Development Opportunities	44	45



retreat focusing on career and professional development. The event, held at a four-star hotel with NKI paying the bill, is so popular that postdocs from other institutes in Holland ask to be invited. "We treat all the postdocs with respect," Peters says.

Like other scientists, postdocs prefer their respect be accompanied by something more tangible, such as adequate salaries and benefits. In some cases, being affiliated with a government agency rather than a private university or research institute can offer better salary and benefits. Postdocs at the Agricultural Research Service (ARS), part of the US Department of Agriculture, receive the same salary as well as health, retirement, and life insurance benefits as the regular staff scientists, says Dave Love, ARS deputy human resources director.

Postdoc salaries at ARS start at around \$55,000 and range to more than \$67,000, compared to the NIH's recommended stipend levels of \$35,600 to \$51,036 for fiscal 2006. Many top US institutions, including second-place Fred Hutchinson Cancer Research Center ("the Hutch") in Seattle and eighth-ranked Wadsworth Center in Albany, NY, structure postdocs' salaries around these guidelines.

The ARS, which catapulted from 66th place in last year's survey to 10th place this year, also has a strong research base. "Postdocs are given meaningful opportunities to conduct and publish their research," says Love. For postdoc Charlie Barnes, "cooperation among all people in the lab in working towards our common goals" is what he most appreciates about ARS.

In addition to salaries and solid research opportunities, benefits are important to postdocs. "I truly love the research I'm doing," says Jennifer Schmahl, a postdoc at the Hutch. "But it would be nice if postdocs on grants had the same benefits as those on salary." Karen Peterson, the Hutch's postdoc adviser, agrees but says Federal tax regulations prevent postdocs on stipends and grants from receiving employee benefits. The Hutch ▶

## » THE J. DAVID GLADSTONE INSTITUTES TOP 2006 LIST

Six years ago, the San Francisco-based J. David Gladstone Institutes surveyed postdocs, appointed a postdoctoral advisor, and brought in an organizational psychologist to help create a top-notch training program. This year, their No. 1 ranking suggests that their efforts are paying off.

The training program includes courses in time management, mentorship, and even one by Gladstone President Robert Mahley on the art of lecturing, part of an effort to "teach us everything we need to know to be independent scientists or whatever we want to [be]," says postdoc Danny Hatters. Kimberly Scearce-Levie, a former postdoc-turned-staff-scientist at Gladstone, says the promotion track has allowed her to acquire skills she needs to run her own lab.

In a postdoc-dominated environment—Scearce-Levie's lab has seven postdocs and one grad student, which is "not unusual"—the fellows enjoy exclusive biweekly pizza lunches and seminar series with prominent scientists. Outside these events, however, postdoc interaction can be limited, Hatters says.

The Institutes' recent move across the street from the University of California, San Francisco's main campus in Mission Bay has strengthened their affiliation with the university, where postdocs and faculty hold joint appointments. Gladstone postdocs have access to UCSF libraries and facilities, and in December, the two institutions teamed up to host a postdoc leadership conference.

Gladstone postdocs all receive the same salary and benefits in what postdoc advisor John LeViathan calls a "very transparent" process. Some say this salary doesn't match San Francisco's high cost of living, however, and rue the lack of on-site childcare. Luckily, they can air such grievances in the administration's biennial surveys or before the postdoc- and faculty-comprised founding board. —Ishani Ganguli

## » CANCER CENTERS COURT POSTDOCS

Cancer research centers that recognize and meet their postdocs' needs fared well in this year's survey: Fred Hutchinson Cancer Research Center and Fox Chase Cancer Center ranked No. 2 and No. 6, respectively.

At Fred Hutchinson in Seattle, postdocs are "integrated into the system," says postdoc Renee Ireton. The Center's Student-Postdoc Advisory Committee (SPAC) has implemented postdoc-friendly policies such as a childcare subsidy program and funding for courses at nearby University of Washington or the Institute for Systems Biology. SPAC is a "prominent part of campus," says Ireton, who receives frequent emails on the program listserv about meetings and travel awards.

While most postdocs are treated as salaried employees with equal benefits, those who receive grant funding get fewer benefits, some complain. Still, "an awful lot of postdocs come [to Fred Hutchinson] and don't want to leave," says Karen Peterson, who started as a postdoc there before becoming the SPAC advisor.

With no affiliation to a large academic institution, Fox Chase in Philadelphia relies heavily on its postdocs. They are "our lifeblood and... we have resources specifically for them," says Maureen Murphy, director of the Postdoctoral Training Program. Fox Chase postdoc Jian Fu cites benefits like quality daycare, subsidized housing, and career workshops as the main draws for him and his family, though others complain that retirement benefits are lacking and grant funding is sometimes short. Postdoc Mahendra Singh appreciates the family atmosphere of a small institution. "You don't have to bother with formal collaborations," he says. "If you want to use [other PI's] facilities, you just go and ask." —Ishani Ganguli

## Top 15 North American Institutions

Rank in 2006	Rank in 2005	Name	Country	No. of postdocs in the life sciences	Average annual postdoc salary (or salary range)	Postdoc office, assoc, or advisor?
1	12	The J. David Gladstone Institutes	USA	83	\$51,180	Office of Postdoctoral and Graduate Affairs
2	2	Fred Hutchinson Cancer Research Center	USA	280	\$38,974	Student-Postdoc Advisory Committee
3	1	US Environmental Protection Agency	USA	22	\$44,119-63,980	Human Resources Management Division
4	22	Emory University	USA	470	\$30,000-55,000	Office of Postdoctoral Education
5	3	National Institute of Environmental Health Sciences	USA	225	\$40,900-65,000	Office of Fellows' Career Development
6	40	Fox Chase Cancer Center	USA	119	\$39,000	Postdoctoral Training Program
7	15	National Institute of Diabetes & Digestive & Kidney Diseases	USA	325	\$37,100-67,000	Office of Fellow Recruitment and Career Development
8	6	Wadsworth Center	USA	75	\$37,500	Postdoctoral Coordinator
9	4 (in nonUS)	Dalhousie University	Canada	104	\$39,710 (CAN)	Office of the Vice President Research
10	66	USDA Agricultural Research Service	USA	60	\$54,000-65,000	Office of Personnel Management
11	9	Woods Hole Oceanographic Institution	USA	61	\$53,000	Postdoctoral Fellowship Committee
12	—	Boyce Thompson Institute for Plant Research	USA	40	\$31,700	Postgraduate Society
13	8	National Cancer Institute	USA	800-900	\$41,700-56,000	Fellows and Young Investigators Association
14	—	Donald Danforth Plant Science Center	USA	34	\$35,000	Society of Fellows
15	28	Vanderbilt University	USA	530	\$38,000-40,000	Office of Postdoctoral Affairs

### » FEDS WIN WITH D.C. CENTRALITY

When it comes to government research, it's all about location, respondents say. Headquartered in the Washington, DC area, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), US Department of Agriculture Agricultural Research Service (USDA ARS), and National Cancer Institute (NCI) ranked Nos. 7, 10, and 13 respectively in this year's survey.

Proximity to the US capital is "a tremendous asset," offering postdocs opportunities in government, private foundations, voluntary health agencies, and even biotech companies, says Louis Simchowicz, director of NIDDK's Office of Fellow Recruitment and Career Development.

The NIH campus itself offers unique resources. Bethesda-based postdocs have access to NIH classes taught by top scientists, says NIDDK postdoc Amanda Skoumbourdis. Interaction with other NIH institutes—through poster sessions and meetings—fosters interdisciplinary research. And, postdocs can see the direct applications of their research, according to NIDDK postdoc Eric Liu. "The patients are literally right across the hall from my laboratory."

Only 15 miles away in Beltsville, MD, postdocs on the USDA ARS campus often collaborate with their Bethesda colleagues on intersecting topics like human nutrition and bioterrorism, says USDA Beltsville director Phyllis Johnson. Postdoc Justin Barone cites the USDA's proximity to Washington, DC and the NIH as the "number one factor" for 20-somethings coming out of graduate school. Though the program affords postdocs "quite a bit of autonomy," he says the "politics and hierarchy" in a government bureaucracy "can be stifling for someone young and energetic." —**Ishani Ganguli**

### » POSTDOCS BLOSSOM AT PLANT SCIENCE CENTERS

For studying plants, postdocs report, small institutions devoted to the topic are the way to go. The Boyce Thompson Institute (BTI) in Ithaca, New York and the Danforth Center in St. Louis, Missouri ranked Nos. 12 and 14, respectively, in this year's survey.

At BTI, a trainee-run postgraduate society mediates relations between postdocs and the administration. "They are given real responsibility and real money to do things," says BTI President David Stern, like offering seminars on preparing a CV and setting up collaborations. Danforth's equivalent is the Society of Fellows, which organizes monthly seminars and lunches for postdocs.

The strong "infrastructure of staff and equipment" at BTI lets postdocs focus on their experiments, says postdoc Tom Bollenbach. The institute provides fully staffed media prep, glasswashing, and greenhouse facilities, and administrative assistants are available to help postdocs with grant applications. Postdocs can also take advantage of classes and library resources at BTI's nearby affiliate, Cornell University, says fellow Saikat Bhattacharjee. He cites low salaries and limited interaction among postdocs as downsides of BTI.

At Danforth, the state-of-the-art facilities provide a point of interaction with the outside community. Companies and researchers at Washington University in St. Louis rent the proteomics, tissue culture, and greenhouse facilities on an hourly basis. What's more, postdocs take the lead in conducting public tours of the center. Monica Schmidt, postdoc and secretary of Danforth's Society of Fellows, appreciates this opportunity "to talk about your research and hear what [the public's] questions are." Other Danforth postdocs would prefer greater interaction with PIs. —**Ishani Ganguli**

tries to compensate by offering childcare subsidies, conference travel twice a year, and scholarships for continuing studies.

Postdocs in Europe generally have fewer concerns about benefits than do their colleagues in the United States, largely because of nationalized health care. But postdocs in Israel and Canada can also find themselves bereft of benefits. At the fourth-ranked Weizmann Institute of Science in Rehovot, Israel, postdocs on fellowships receive no health care or retirement benefits. "The upside is no tax is deducted from their pay," says Michal Irani, who heads Weizmann's postdoc program. It was a conscious decision. "We could either have fewer postdocs with more benefits or more postdocs with fewer benefits," she says. "We've tried to optimize the program with more postdocs."

In Canada, postdocs face a similar situation, observes Carl Breckenridge, vice president for research at ninth-ranked Dalhousie University in Halifax. While the Canadian government provides universal health care, a recent change in regulations bars postdocs on fellowships from receiving it, he says. Other benefits are determined by the particular grant or fellowship. "Our institute doesn't have a level playing field in providing benefits," Breckenridge says. What is attractive is Dalhousie's medium-sized labs (three or four postdocs to each) and research flexibility.

As for giving postdocs more certainty about their future careers, no institution can do much, other than watching for the best and brightest and offering permanent positions when they become available. Says Irani, "If a star shines, we are happy to grab him." ■

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#### REFERENCES

1. "Recommendations for postdoctoral policies and practices," National Postdoctoral Association, Washington, DC, February 2005. [www.nationalpostdoc.org/policy/Recommended\\_Practices.pdf](http://www.nationalpostdoc.org/policy/Recommended_Practices.pdf)
2. R. Harper-Mangels et al., "A 10-step plan for better postdoc training," *The Scientist*, 20(1):24-5, January 2006.

## » SWITZERLAND: HIGH STANDARDS AND QUALITY SCIENCE

At first glance, Switzerland may appear to present some pretty big downsides for postdocs. After all, it's a tiny country that stands aloof from the European Union and has an extensive list of official languages that nevertheless excludes English.

And yet, this year's survey shows that three of Switzerland's top research centers rate very highly. Konstantina Boutsika, a postdoc at the No. 1-ranked Friedrich Miescher Institute (FMI) for Biomedical Research says the country's popularity lies in the fact that it offers "very high standards and offers high quality science."

"I can not think of a bad point, except that the working language is not always English, but German or French, according to the region of Switzerland you live and work in," she says.

Swiss postdoc salaries are relatively generous, and tax rates low (at about 17%). Even in Zurich, which is an expensive city, "on one postdoc salary you can easily live alone in a nice flat with 2 bedrooms and not have to think [about money] when you go out," says Stéphanie Buvelot Frei, a postdoc from ETH Zurich.

The country's diminutive size also makes for good networking. National meetings in different disciplines take place annually and bring together scientists from all the universities and institutes of Switzerland. "I have been a participant and it helped a lot my networking," Boutsika says. And, while Switzerland is not part of the EU's bureaucratic monolith, it does benefit from many of its science funding and support systems.

Swiss centers also enjoy a particularly international atmosphere. At FMI, for example, the roughly 60 postdocs come from 30 different countries.

On the down side, says Frei (a native Swiss), the diminutive size of the country means there's a tendency to try not to have two people working on the same topic. "You will need to have your contacts before you come here," she says. —**Stephen Pincock**

## » LONG LIVE THE NORTHLAND!

Scandinavia's life science community is on the rise, as reflected in *The Scientist's* 2006 Best Places for Postdocs survey. Three research institutions in the region ranked in the top 15 this year, and postdocs from around the globe are immigrating there to take advantage of the stimulating research environment.

That environment is characterized by a non-hierarchical structure, and postdocs there feel they have the freedom to take their own initiative. "We work in teams," says third-ranked University of Bergen (Norway) postdoc Abdullah Madhun. "If you have a good idea, it doesn't matter if you are a professor or a postdoc." Madhun, a microbiologist working with influenza response, left Palestine in 1994. He completed his Master's degree and PhD in Norway and has been a postdoc there for three years.

Postdoc Caroline Heckman from Stanford, Calif., was drawn to 13th-ranked University of Helsinki by the Molecular and Cancer Biology Research Program, in which she now works. "This well-known group is one of the reasons I came here two years ago," she says. "The facilities are excellent and very up to date." Those facilities include the Biomedicum Helsinki: Completed in 2001, it now houses over 1200 active biomedical researchers.

Sixth-ranked Umeå Plant Science Center, home to 170 experimental plant biologists, attracted Tatjana Kleine from Marburg, Germany. "We are many researchers gathered in the same center, and this creates a rich environment for me as a postdoc," says Kleine, whose research focuses on chloroplast communication.

All three postdocs agree that some obvious hurdles have been easy to clear. Language barriers aren't a problem, since almost everyone in Scandinavia speaks English. On-campus saunas alleviate the harshness of the long winters (Heckman has one next to her office). And, the bright summers are good for outdoor sports: "I spend as much time as I can hiking and skiing in the mountains surrounding Bergen," Madhun says. —**Johan Nyman**



## Top 15 Institutions Outside of North America

Rank in 2006	Rank in 2005	Name	Country	No. of postdocs in the life sciences	Average annual postdoc salary (or salary range)	Postdoc office, assc, or advisor?
1	45	Friedrich Miescher Institute for Biomedical Research	Switzerland	60	84,000 CHF	Postdoc Association (elected representatives)
2	—	MRC Laboratory of Molecular Biology	UK	125	£25,000-30,000	none
3	11	University of Bergen	Norway	100	372,000 NOK	none
4	26	Weizmann Institute of Science	Israel	127	93,600 NIS	Postdoctoral Fellowship Program
5	—	Pasteur Institute	France	210	€25,200	Postdoc Office, and StaPa Trainees Assc
6	1	Umea Plant Science Center	Sweden	35	180,000-210,000 SEK	one part-time advisor
7	23	University of Dundee	UK	205	£20,004-43,850	SLS Postdoc Association
8	—	University of Basel Biozentrum	Switzerland	115	63,000-85,056 CHF	none
9	—	ETH Zurich	Switzerland	204	78,000-86,000 CHF	Academic Association of Scientific Staff
10	60	University of Manchester	UK	322	£20,044-30,002	Postdoc career development program
11	3	The Netherlands Cancer Institute	Netherlands	102	€40,000-60,000	Postdoc Committee
12	24	Catholic University of Leuven	Belgium	N/A	N/A	N/A
13	46	University of Helsinki	Finland	300	€33,600-36,000	none
14	61	University of Nottingham	UK	59	£23,457-33,445	none
15	35	University of Edinburgh	UK	347	£20,044-43,850	none

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### » LIFE ON THE UPSWING FOR UK POSTDOCS

The United Kingdom may be home to a disproportionate number of highly ranked institutions in this year's survey, but it would be incorrect to assume that life is a bed of roses for the country's postdocs.

For one thing, cash flow remains a serious problem. "Postdoc jobs do not pay enough in the UK," says Simon Felton, general secretary of the National Postgraduate Council. He says finance is a long-term problem that leaves staff feeling vulnerable, makes it hard to get mortgages, and leads to significant recruitment and retention problems.

Some of those problems may ease, however, as growing numbers of UK institutes put postdocs on permanent contracts. The University of Bristol is leading this trend: Felton reports that about 50% of its postdoctoral researchers now have permanent contracts.

The European Union's directive on fixed-term contracts will have a further effect on the situation for hundreds of postdocs in the coming year, when those who have been on fixed-term contracts for more than four years will be automatically entitled to a permanent contract.

But whether life as a UK postdoc is going to get any better is anyone's guess, says Paul Andrews, a cell biologist and co-chair of the School of Life Science's postdoc association at 7th-ranked University of Dundee. "What's certain is, simply allowing the status quo to continue is at odds with the grassroots feeling." —**Stephen Pincock**

### Survey Methodology

*The Scientist* posted a Web-based questionnaire and invited readers of *The Scientist* and registrants on *The Scientist* web site who identified themselves as non-tenured life scientists working in academia or other non-commercial research organizations to respond. From more than 40,000 invitations, we received 2,983 usable responses from scientists in the United States, Canada, and Western Europe. We asked respondents to assess their working conditions and environments by indicating their level of agreement with 46 criteria in 11 different areas. They also indicated which factors were important to them. We identified 114 North American institutions and 37 institutions from elsewhere with 4 or more responses.

To calculate an institution's overall ranking, we first weighted each factor based on the average importance score. Because several factors that ranked as important in the North America are valued less elsewhere and vice versa, we used different factor weightings to rank the two groups of institutions. The overall rankings are based on the average score per institution from all respondents on all factors weighted according to their regional importance. Detailed information on the survey methodology is available on *The Scientist* Web site at [www.the-scientist.com](http://www.the-scientist.com). Our sample of scientists was self-selected, and we have made no attempt to standardize the results or to conduct detailed statistical analysis.