

CAREERS

CANADA Postdocs at three universities seek union representation **p.723**

GRANTS Howard Hughes programme will fund early-career scientists **p.723**

NATUREJOBS For the latest career listings and advice www.naturejobs.com



S. MEISTER/IMAGEZOO/CORBIS

decided to give it a try. He negotiated a rate of about US\$300 and sent in the manuscript, along with further data. Several days later, he received the finished version. The methodology had been restructured, the new data were incorporated and reformatted and it read cleanly and smoothly. Petrovic and his co-author submitted it to the Belgian medical journal *Acta Clinica Belgica*, where it was promptly accepted (M. Petrovic *et al. Acta Clin. Belg.* 61, 119–126; 2006).

“What we got back was a huge improvement,” says Petrovic, a professor of geriatrics at the University of Ghent in Belgium. “It all went very smoothly.”

Scientists all over the world are increasingly turning to manuscript-editing services. Some authors hope to refine a paper before submitting it to a journal; others aim to correct problems that emerged in peer review. Most are looking for companies to provide a basic service, including correcting for grammar, spelling, punctuation, consistency, clarity, proper capitalization, accurate use of terms and logical presentation. Many services also correct for British or American usage and for adherence to particular style manuals, such as the Chicago Manual of Style, the American Medical Association or the American Psychological Association. A number of companies specialize in editing papers by authors whose first language is not English.

But polishing poor or sloppy English is not the only aim. Some authors, like Petrovic, want further scrutiny and revision, such as the incorporation of additional data. Others are looking for a more in-depth review of the science to check for valid protocols, methods and other issues. This can give rise to ethical quandaries related to authorship and fairness. As editing services become more common, potential users should consider the benefits, weigh their options and carefully review the accepted practices of the journals in which they hope to publish.

EDITING ON THE RISE

Although statistics aren't available on the expanding use of editing services, companies offering them claim that demand is steadily rising, and the number of such companies seems to be growing (see ‘Opportunities in editing’). Tightening competition for scientific publication is a big contributor to demand, say journal editors and editing-service providers alike. More papers are coming from emerging science regions such as China, India, the ▶

PUBLISHING

A helping hand

Manuscript-editing services are growing. Can they turn a mediocre paper into a publishable one? And at what cost?

BY KAREN KAPLAN

Mirko Petrovic was in a jam. A paper on which he was lead author — a clinical study on the prevalence of sleeping aids among elderly patients — had been rejected for publication. Reviewers said that the article's methodology was improperly structured, its

data were scant and not in the right format, and its language needed polishing. Resolving the flaws would require at least two weeks of work, and he wanted to publish quickly.

Petrovic had heard about a company that offered copy-editing, formatting and in-depth scientific editing of manuscripts. Although he had never used such a service before, he

► Middle East and South America, swelling the overall number of manuscripts that must be reviewed — and rejected. The influx means that journal editors are recommending editing services to authors whose native language isn't English with increasing frequency.

"I deal with a lot of foreign manuscripts now, and the trend is growing — it's not going to stop," says Xiao-Fan Wang, an associate editor at the *Journal of Biological Chemistry*, who says that papers from authors in China alone represent 20% of the 500–600 submissions that the journal receives each year. "I tell them, 'You need to find an editing service — not somebody who's just going to fix your grammar but who understands your work and can highlight what's important,'" says Wang.

Among the players are Nature Publishing Group (NPG) in London, which publishes *Nature*, and Macmillan Scientific Communication, a division of Macmillan Publishers, NPG's parent company. NPG has a service called Nature Publishing Group Language Editing (NPGLE), introduced in June 2008 largely to serve non-English-speaking authors.

Macmillan Scientific Communication, meanwhile, is developing a scientific-editing service that is set for launch early next year. The venture, say project organizers, will aim to provide in-depth editorial advice on a paper's scientific content, structure and presentation.

But scientists need to be wary when hiring editors (see 'How to choose a manuscript-editing service'). Manuscript-editing companies warn that it is easy to set up a website and difficult to tell

whether the information and claims on it are valid. Authors can ask their target journal for a list of recommendations or look for them online on the journal's author resource page, says Laura Stemmler, operations director for the editing service American Journal Experts in Durham, North Carolina. She adds that an author might also ask colleagues for suggestions.

WORTH THE TROUBLE?

Can an editing service actually help an author to get published? Journal editors say that it depends. If a manuscript's principal or only problem is tortured English, neither a manuscript editor nor a peer reviewer is likely to reject it, say editors. But if the paper's writing is so mangled that it is almost impossible to read, it will be rejected regardless of its scientific quality. That is when an editing service is useful before the author even tries to submit.

"Reviewers these days are overburdened, and a properly written paper is just easier to review," says Jim Viccaro, editor of the *Journal of Applied Physics*, who routinely recommends editing services to authors.

Viccaro reads all the manuscripts received by the journal and decides whether to assign them to an associate editor for further scrutiny or to send them out for peer review at once. "Some I don't even send — I reject them out of hand. You don't want to send really bad manuscripts to reviewers. You don't want to waste their time," he says. "If you run your paper through an editing service first, you'll clear away those problems and get a fair review. Hiring an editing service doesn't guarantee publication, but it does guarantee a review with substance."

Editing services themselves are sensitive about the publication-guarantee issue. NPGLE, for example, has a large disclaimer at the bottom of its home page stating that use of its services in no way guarantees publication in *Nature* or any NPG or other journal. Most



"Reviewers these days are overburdened, and a properly written paper is just easier to review."

Jim Viccaro

for a 6,000-word paper with a 14- to 21-day turnaround to \$5,000 for a 12,000-word paper with a 48-hour turnaround. Viccaro says that it is a worthwhile investment. "This is how an author can make sure their paper is not dismissed for the wrong reason, just because no one could understand what they were talking about," he says. Wang maintains that directing non-English-speaking authors to editing companies before submission has allowed him to accept an extra 5–10% of papers that he would otherwise have rejected. "These services can offer a lot of value," he says. "Not only in English, but in highlighting what the author didn't even realize was the most important part."

Marissa Carter, president of Strategic Solutions in Cody, Wyoming, says that her editing service helps two out of three authors whose papers were rejected in peer review to get published in other journals.

Carter — whose company offers services from copy-editing and formatting for style to science editing — says that she might, for example, work with an epidemiological study on exposure to inhalable environmental agents. If the paper had been criticized because the statistical analysis wasn't adjusted for smoking, Carter says that she would request more data from the authors on subject smoking history. And she might suggest that they conduct further analysis. "But I can't rescue the paper if the study is flawed," she warns. "Sometimes authors may not have collected the data they need."

ETHICS AND AUTHORSHIP

With more in-depth, incisive editing comes the question of ethics and authorship. Companies that offer extensive science editing, addressing such issues as flawed protocols and inadequate experiment design, invite quandaries about the attribution of authorship and fairness — not every author, after all, has the extra money to secure the advantages that come with extra assistance.

Both Carter's Strategic Solutions and



"I deal with a lot of foreign manuscripts now, and the trend is growing."

Xiao-Fan Wang

THE RIGHT OPTION

How to choose a manuscript-editing service

- Select a company that specializes in academic editing and has field-specific editors with graduate-level training.
- Be suspicious of companies that post testimonials with no names or affiliations on their websites.
- Be wary of English-language editing companies based in countries where English is not the native language.
- Ask to submit a 500-word sample edit to see how the company performs.
- Look for a company with a web-based submission system (where a user logs

in, creates an account and uploads the paper). Such companies are likely to be established organizations with a high level of security.

- Don't just choose on the basis of price. Consider quality, convenience and turnaround time.
- Seek a company that offers services such as formatting, help with selecting a journal or translation from another language.
- Look for a company with a clear privacy policy that requires its editors to sign confidentiality agreements. **K.K.**

CAREER CHOICES

Opportunities in editing

Staff editors at manuscript-editing companies tend to be part-time, and are often doctoral students or postdoctoral researchers. Some companies do pay attention to the reputation of the school from which they recruit editors. Here are tips for scientists interested in working for a manuscript-editing company.

- Take a scientific editing course. The certificate may help you to get hired.
- Learn the Chicago Manual of Style and other scientific editing styles. Different journals use different styles.
- Become a journal peer reviewer to get a feel for what to look for and correct as an editor for a manuscript-editing service.
- Learn the finer details of formatting in Microsoft Word. Manuscript-editing

services are often called on to format data, tables, graphs, figures and references for a specific journal.

- Develop excellent communication and customer-relation skills. You will be working closely with the company's clients on projects that are hugely important to them and you will have to be tactful and patient, especially if a paper contains many problems or the client doesn't speak English well. In many companies you will also be working closely with other editors.
- Learn business principles. Many manuscript-editing services are start-ups and it will help them — and you — if you can market, price and advertise services, for example. [K.K.](#)

American Journal Experts, which has started offering what it calls 'content review' to address scientific and design flaws likely to be targets of peer review, maintain that the work they do doesn't create an ethical dilemma. Carter says she has "very strict rules" and requires that she be listed in the acknowledgements if she significantly rewrites a paper. American Journal Experts says that its content reviewers only make recommendations and identify potential problems; they are not designing the experiment or writing the paper.

"I don't believe the recommendations I make would warrant authorship status," says Anuj Kapadia, a radiologist at Duke University in Durham, North Carolina, who also acts as a content reviewer for American Journal Experts and as a peer reviewer. Journals for which he conducts peer review include *Physics in Medicine and Biology*, *IEEE Transactions on Nuclear Science*, *Analytical Chemistry* and the *Journal of Digital Imaging*.

"I'm not telling authors how to conduct the study, I'm not telling them the methods they have to follow to reach their goal," Kapadia says. "I'm telling them they said such-and-such but didn't demonstrate it — I'm not telling them how to demonstrate it."

The *New England Journal of Medicine* addresses the authorship issue by requiring authors to disclose all writing and editing assistance and to acknowledge such assistance in their paper. "Lending one's name to an article written by another party is strictly forbidden," says the journal's spokeswoman, Karen Buckley. Although Buckley would not discuss editorial policies, the journal may still

be sensitive about allegations last year, some since refuted or retracted, of ghostwriting in several top medical journals. Ghostwriting — the unacknowledged contributions of medical or other writers, often sponsored by drug companies or other corporate entities, to scientific manuscripts published under the names of academic authors — has been a thorn in the side of the medical publishing industry for a number of years.

Such touchy issues mean that authors should be careful to determine a journal's policies before submitting a manuscript. Journals in other subjects, such as physics, are unlikely to receive the scrutiny that biological and medical-science journals undergo, says Reinhardt Schuhmann, editor of *Physical Review Letters*.

Ultimately, it is impossible to police authors' use of manuscript-editing services — they have to maintain their own ethical boundaries, says Schuhmann. "We often suggest that authors whose papers are not well written consult a colleague," he says. "If the colleague were someone they paid, how would we know? We don't keep track of whether they send it to an editing service."

In general, a scientist's budget, needs and time will dictate whether to hire an editing service. But authors might also keep in mind a point on which journal editors agree — a well written paper with no glaring flaws is almost certain at least to get in the door and undergo peer review, a major step towards acceptance. "We need to be confident that we're giving the scientific community high quality at all levels," says Viccaro. "The author can help us a lot if he or she submits a manuscript that's readable." ■

Karen Kaplan is the assistant Careers editor.

CANADA

Postdoc unions

Issues such as low pay, long working hours and no holiday or sick pay have prompted postdocs at the University of Toronto and Queens University in Kingston, both in Ontario, and the University of Quebec in Montreal (UQAM) to seek union representation. Some 800 postdocs in Toronto want to affiliate with the Canadian Union of Public Employees; around 200 at Queens and 150 at UQAM want to join the Public Service Alliance of Canada (PSAC). University of Toronto administrators maintain that postdocs are not university employees and so have no right to unionize. The Ontario Labour Relations Board will decide on that right in hearings for Queens this month and Toronto in 2011. The board is reviewing an application from UQAM postdocs.

GRANTS

Awards for biomedicine

The Howard Hughes Medical Institute (HHMI) in Chevy Chase, Maryland, is to make awards to 35 early-career biomedical researchers from 18 non-US countries. The International Early Career Scientist competition will support biomedical researchers who have done a postdoc, have a research post in one of the 18 nations and trained at the doctoral, medical or postdoc level in the United States. Unlike past such HHMI competitions, it will not focus on one discipline or region. Seeking to foster collaboration and seed labs, the HHMI will give each recipient US\$650,000 over 5 years. Programme directors say that the 18 nations are small enough to benefit from the grants, but have the infrastructure to continue supporting the researchers. The competition closes on 23 February 2011.

SCOTLAND

Academic jobs safe

Despite a proposed 4% government budget cut for 2011–12, Scotland's 14,500 faculty researchers have job security this year, say officials. The £28-billion (US\$44.3-billion) Scottish draft budget for 2011–12 was announced on 17 November. It would keep the £213-million Research Excellence Grant, which supports research nationwide by paying academic salaries and grants, at the same cash level. The Scottish Funding Council hopes to keep funding to universities stable. Universities Scotland, an association that represents the country's 20 higher-education institutions, says that more cuts after 2012 might lead to layoffs.

garner independence, says Rachel Jones, a postdoctoral fellow in biomedicine at the WCMC-Q. "Others give a looser rein and let their postdocs pursue their own interests as well as their supervisors," she says.

Jones credits support from her postdoc supervisor for helping her to pursue the QNRF's Young Research Scientist Experience Program, launched in May. She received an award of US\$100,000 a year for up to three years, which she views as a bridge to more substantial grants.

Many researchers would like the benefits that come with tenure, an option yet to be offered to faculty members hired at Doha branches (as opposed to those visiting from the US home campuses). This is partly explained by Gulf countries' labour and immigration laws, which frown on recruitment options implying a right of permanent residence. "Everything is set up so people who are not citizens are encouraged to leave after five or ten years," says Holste.

And Qatar and other Gulf countries rarely offer citizenship to expatriates. "A broad extension of citizenship rights to non-nationals would be extremely unpopular," says Diwan. Extensive state welfare programmes in the Gulf, along with the delicate sectarian balance to be maintained between Sunni and Shi'a Muslims, render any programme to naturalize foreigners unpalatable to most. Foreigners wishing to be hired need a Qatari sponsor (who can be an individual, a firm or a government agency). And most contracts span two to five years.

Officials at the branch campuses say that they are discussing options with the Qatar Foundation, and Al Saady notes that proposals to modernize labour laws are under way. Others in the region have proven faster than Qatar on the tenure front. The UAE, which has a thriving trade hub in Dubai, plenty of oil in Abu Dhabi and no sectarian divide, has more open labour and immigration laws than most of its neighbours.

Qatar's litany of challenges has not dissuaded enterprising researchers such as Machaca, who sees a long-term future in the small state. "As a scientist, what do I need? To do cutting-edge science, to publish it, and hopefully in the long term to be able to commercialize it. And of course you want your family to be happy," he says. "Can I do this in Doha? Absolutely." ■

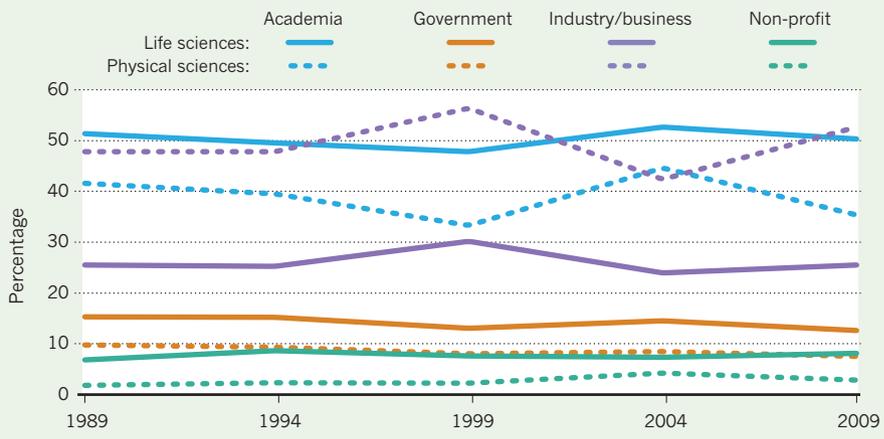
Waleed Al-Shobakky is a freelance writer based in Doha.

CORRECTION

The story 'A helping hand' (*Nature* **468**, 721–723; 2010) inadvertently implied that Anuj Kapadia is a clinical radiologist. He is an assistant professor of radiology.

DIVISION OF LABOUR

Proportion of US doctorate recipients with definite post-graduation employment commitments in the United States, by field and sector.



EMPLOYMENT TRENDS

Drawn to academia

Low salaries and elusive tenure didn't dim the appeal of self-directed research for US scientists last year.

BY KAREN KAPLAN

Despite a struggling economy, lower salaries and an increase in adjunct and contingent positions, a higher proportion of US scientists headed to academia than to any other sector in 2009, according to numbers from the US National Science Foundation (NSF). Published on 3 December, *Doctorate Recipients from US Universities: 2009* includes salary data for the first time in the annual report's 43-year history.

Even with universities offering much lower salaries than industry, half of all life-sciences PhD recipients who had secured jobs said that they were entering academic positions, according to the survey. This proportion, which has varied little since 1989, is a testament to the powerful lure of positions that enable self-directed research, say analysts. "Many scientists want the independence of working on their own research, rather than on what's handed to them," says Mark Fiegenger, an NSF programme manager based in Arlington, Virginia. The NSF received survey responses from 420 US universities and 49,562 PhD recipients.

The industrial sector proffered the highest median early-career salaries — up to US\$95,000 in some instances — in most disciplines in the physical and life sciences. The median for an academic post in biological sciences was \$45,000, compared with \$85,000 for a commercial position in the same subfield, including biochemistry, marine biology and zoology. Other fields had similar disparities.

Academia dominated life-sciences employment in 2009, but industry was stronger for physical scientists, despite changes to job numbers since 2008 that run counter to five-year trends and could be due to pharmaceutical layoffs (see 'Division of labour'). Richard Freeman, an economist at Harvard University in Cambridge, Massachusetts, attributes the five-year trend in part to hiring increases at drug-making and chemical firms. He says that mergers and layoffs will continue to slow the field down.

Industry's constraints will put pressure on academia, which is already pinched by the recession, says Marc Bousquet, an associate professor at Santa Clara University in California who is on the executive council of the American Association of University Professors. Scientists in all fields will struggle to find academic posts — and few of those available will be tenure-track, he says.

The report also uncovers significant pay differences between early-career men and women with PhDs. Men earned up to \$10,000 more than women in nearly all fields except astronomy, where they earned \$30,000 more. Joan Herbers, president of the Association for Women in Science in Alexandria, Virginia, says women need help learning to negotiate salaries and raises. "When you start out at a lower salary," she says, "that dogs you for the rest of your career."

Postdocs earned \$37,500 to \$45,000, which, given their average schedule, Freeman estimates, works out to \$12.50 to \$15 an hour. "Some of the best and brightest people in our country earn a pittance," says Freeman. ■