

Cut and paste 'holus-bolus' raises tough questions at Queen's

University papers are at the centre of self-plagiarism dispute that highlights questions about scientific conduct

BY MARGARET MUNRO

Four scientific reports — three of them dealing with Canadian space experiments — have been retracted after a long-running dispute at Queen's University over self-plagiarism and "bogus authorship."

"They were retracted over concerns of duplication, primarily," says Douglas Braaten, executive editor of the *Annals of the New York Academy of Sciences*, who has pulled three Queen's papers dealing with microgravity experiments conducted on the space shuttle and international and Russian space stations.

The fourth paper, on railway steel, was almost identical to an earlier publication. It represents "a severe abuse of the scientific publishing system," say the journal editors who recently retracted the duplicate paper, which was uncovered as part of an alleged "academic misconduct" case involving "holus-bolus" recycling by a senior scientist at Queen's in papers published with some of his students and associates in Kingston.

Titles and authors' names on the papers change, but chunks were duplicated in papers co-authored by Reginald Smith, Postmedia News has learned.

Smith declined to comment for this story, but others say the dispute highlights problems with the way scientific misconduct is defined and dealt with in Canada.

They also say the case was botched by both Queen's and Canada's largest science funding council, the Natural Sciences and Engineering Research Council.

"They were judge, jury and executioner," says Smith's lawyer Ken Clark, recalling how NSERC was going to cut off Smith's grants for "purported" misconduct without revealing the evidence against him. NSERC later backed down.

The professors who uncovered the duplication say neither Queen's nor NSERC dealt with it properly. "I am left feeling that this is yet another case which is being swept under the carpet," says Mort Shirkanzadeh, a materials researcher at Queen's.

Shirkanzadeh and his colleague, Chris Pickles, found evidence of recycled text and data in about 20 scientific publications that Smith had co-authored with others.

Republication, often described as "self-plagiarism," pales when compared to faking data or plagiarizing other people's work. But it is a concern as it can exaggerate a scientist's productivity when applying for grants in the "publish or perish" academic world. It also can cause confusion over copyright issues and clutters the scientific literature.

NSERC, which distributes more than \$1 billion annually in funding to scientists across Canada, will not comment, citing privacy laws. But Daniel Seguin, the council's public affairs manager, says "NSERC takes self-plagiarism very seriously."

So seriously that NSERC decided to take "severe sanctions" and cut off Smith's grants in 2006 for misconduct involving "breaches of publication practices," according to documents released to Postmedia News under access-to-information laws. (Names are blacked out but Postmedia News has learned the documents relate to the Smith case.) The decision was quickly reversed when Smith threatened legal action, and NSERC continues to fund his work.

Smith, 80, is a professor emeritus in Queen's mechanical and materials engineering department and an active researcher. Federal records show he has received federal science grants since 1991, totalling more than \$600,000. NSERC awarded him \$24,060 this year, the third instalment of a three-year "discovery" grant.

Smith also has worked extensively with the Canadian Space Agency, running experiments on how gravity affects glass and alloy production. Steve MacLean, now president of the Canadian Space Agency, was one of the astronauts to operate special furnaces in space for Smith's team. The astronauts fired samples in temperatures up to 900 C, generating data described in some of the disputed papers.

Smith declined to comment when reached at Queen's, referring Postmedia News to Clark, his Toronto lawyer, to discuss the allegations that have dogged him for years.

In 2004, Pickles, a Queen's mining professor, came across two nearly identical science papers Smith had co-authored and several other papers that looked like repeats of earlier publications. Pickles said he in-

formed Queen's officials of the alleged "academic misconduct" and pointed them to 10 of Smith's papers.

Pickles says he felt little would come of the complaint at Queen's and, in frustration, alerted NSERC to the duplication and what he called "bogus authorship" in August 2005, the documents show.

Shirkanzadeh, whose personal conflicts with Smith are long-running at Queen's, learned of the allegations and uncovered more duplication in Smith's publications and conference proceedings. He also claimed to have found evidence of plagiarism of other people's work and data falsification.

Queen's officials, journal editors and an outside expert say the plagiarism and data falsification allegations are unfounded.

Shirkanzadeh laid out his allegations in a series of nine letters to Queen's officials in 2005, which he later forwarded to NSERC, along with papers Smith's group had published between 1988 and 2004. The documents show that NSERC asked Queen's to investigate. The university responded that it had appointed two investigators. A senior academic from Queen's looked into the alleged duplication and plagiarism and an outside expert looked into the alleged data falsification.

The documents say the Queen's investigation found "no evidence" of the more serious allegations of data falsification and plagiarism. But there were "significant concerns" about Smith's "liberal reuse of published materials and data in multiple publications."

Pickles and Shirkanzadeh "have unearthed a long series of cases where there appears to be holus-bolus recycling, with only minor cosmetic alterations, of materials published earlier," reported the investigator who looked into the duplication. "The scale of this activity is remarkable."

Whole sections of documents, first published in obscure publications in 1988, resurfaced verbatim in a report in 2003, and an identical paper in 2004.

The European and British editors of the *Journal of Materials Processing Technology* retracted the 2004 paper recently "as it is a duplicate of a paper that has already been published in Canadian Metallurgical Quarterly."

'Self-plagiarism' pales when compared to faking data or plagiarizing other people's work. But it is a concern as it can exaggerate a scientist's productivity when applying for grants in the 'publish or perish' academic world.

They say that "one of the conditions of submission of a paper for publication is that authors declare explicitly that the paper is not under consideration for publication elsewhere. As such, this article represents a severe abuse of the scientific publishing system."

Clark says Smith mistakenly submitted the same article to the European journal, thinking *Canadian Metallurgical Quarterly* had rejected it. He said this week "it was never" Smith's intention to have the paper published in both journals. The editor of the *Canadian Metallurgical Quarterly* declined comment.

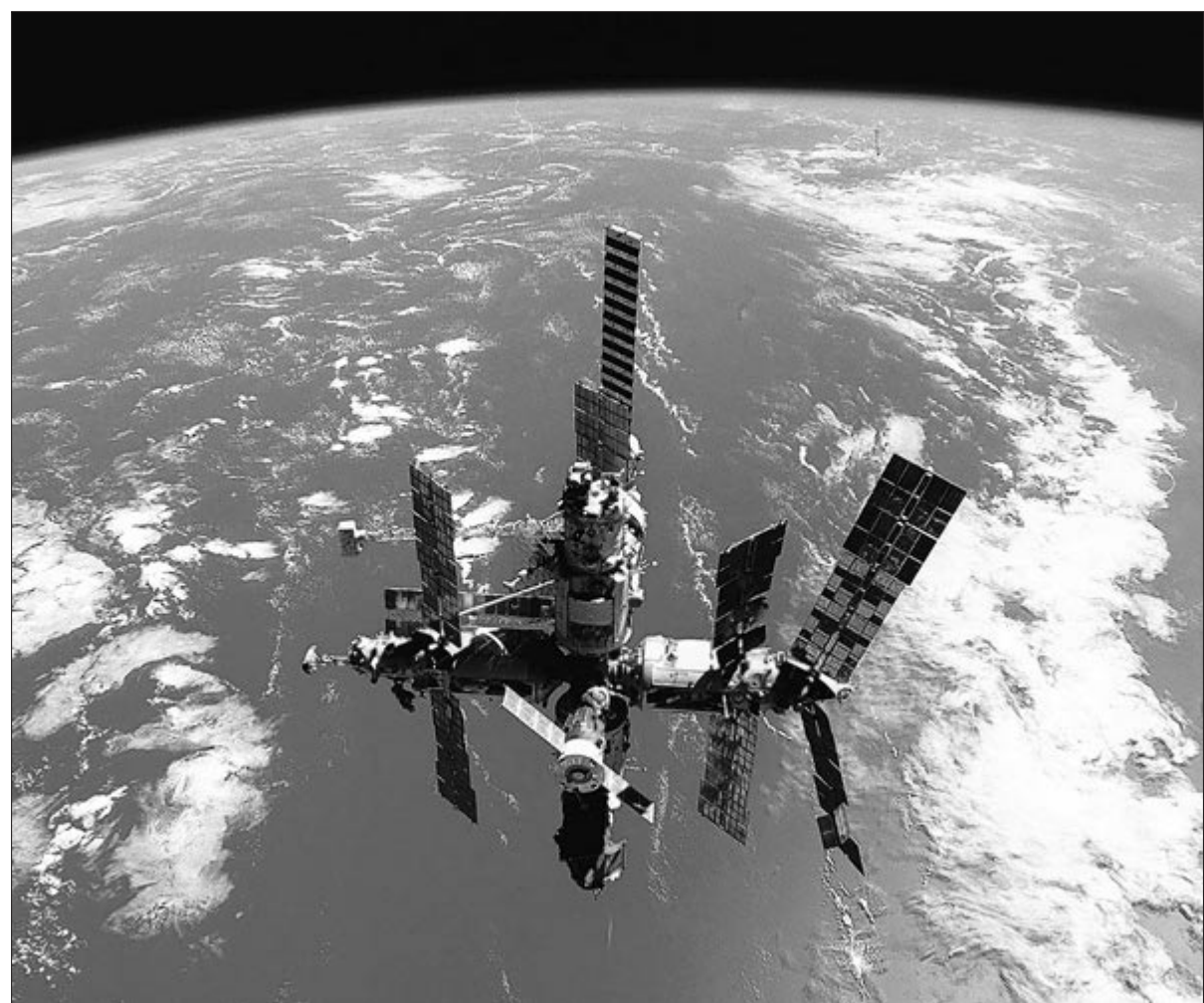
The Queen's investigator reported that in other papers from Smith's group, names of authors change, but large blocks of text and data from old reports are repeated.

"We see minor amendments to title or abstract, and wholesale reproduction of previously published boilerplate, grammatical warts and all," the investigator said.

"Graduate students must be taught more about writing and publication than the techniques of cut and paste," the investigator said, noting "it is important for graduate students and people starting their careers be exposed to ethical practices which include respect for the publication process."

The investigator also said there was "an important principle at stake" in the "breaches of copyright." However, neither the investigator nor Queen's officials considered Smith's "publication issues" to be scientific misconduct.

Queen's assured NSERC that Smith "has recognized the seriousness of the findings regarding the reuse of materials and has imple-



Three Queen's papers dealing with experiments conducted on the space shuttle and international and the Russian space station Mir, shown here, were retracted over self-plagiarism and 'bogus authorship.'



Two Queen's professors found evidence of recycled text and data in about 20 scientific publications co-authored by Dr. Reginald Smith, above.

mented policies in his research group to prevent further issues arising with new work," the documents show.

The documents say NSERC staff in Ottawa felt Queen's "remedial action" was "rather minor, in light of the many breaches of publication practices" brought forward by Pickles and Shirkanzadeh and "recognized" in the investigator's report. NSERC staff were also concerned Smith may have obtained science grants "on the basis of an exaggerated publication record," the documents say.

NSERC asked its Committee on Professional Scientific Integrity to review the case. The committee consists of four council members, leading researchers from across Canada, who advise the president on actions to take when misconduct occurs.

Committee members "expressed disappointment" with Queen's investigation, saying its report "was found to lack thoroughness" and the investigation was "not sufficiently at arm's-length," the documents show.

The committee recommended that NSERC ban Smith from future science grants, saying the documents provided by Pickles and Shirkanzadeh "provided sufficient evidence of misconduct to warrant that severe sanctions be imposed by NSERC," the document says.

NSERC sent a letter June 27, 2006, informing Smith it intended to terminate his grants and ban him from future funding. Smith was given a month to respond.

Smith's lawyer fired off a letter to NSERC a week later. "A more egregious violation of our client's rights and of due process can hardly be imagined," Clark wrote. He demanded the documents and information NSERC based its decision on and threatened to take the council to court for "arbitrary and unlawful actions."

The documents show that NSERC officials and lawyers felt the council might be "in a very difficult situation defending its position." Under the existing rules, universities are responsible for investigating allegations of misconduct.

It could be argued that NSERC's integrity committee "conducted its own investigation and made its own conclusions" in the Smith case, which is "contrary" to policy, the documents say. They also say NSERC could not give Smith's lawyer the documents he had demanded without violating the privacy act.

The council decided to back down and on July 28, 2006, NSERC vice-president Nigel Lloyd wrote Clark saying he was now "rejecting" the integrity committee's recommenda-

tion and "no sanctions will be imposed on your client by NSERC."

NSERC closed the file and Smith continued to apply for and receive grants. In a recent interview, Clark said Smith acknowledged making "some mistakes" by duplicating and republishing material. But he stressed the Queen's investigators found no evidence to support the much more serious allegations of data falsification and plagiarism.

Shirkanzadeh continues to comb through Smith's publications and last year, filed more allegations of data manipulation with the university and NSERC. He also argues the earlier data falsification allegations should be revisited since NSERC found the Queen's 2005 investigation was "not sufficiently" arm's-length.

Kerry Rowe, Queen's former vice-principal of research, this summer concluded there is "insufficient evidence" to warrant a new investigation. Rowe's replacement, Steven Liss, said he sees no reason to reopen the file. NSERC will not comment, citing privacy laws.

Meanwhile, Shirkanzadeh and Pickles say NSERC and Queen's should have taken steps years ago to retract Smith's duplicated publications.

"Neither NSERC nor the university have corrected the research records for the benefit of the scientific community or the taxpaying public," says Shirkanzadeh.

Queen's University told NSERC it considers "appropriate attribution of scientific papers, use of data, and reuse of scientific materials to be at the cornerstone of academic integrity." But Liss says Smith's duplication was not considered misconduct, which he says requires evidence of "intent to mislead," so Queen's officials did not notify journal editors when Smith's duplication was uncovered.

NSERC's Seguin says the council has no authority to correct the research record, but is exploring "the feasibility of developing a formal process to rectify the research record following findings of misconduct."

Shirkanzadeh and Pickles have brought Smith's duplication to editors' attention, prompting retraction of the four studies and ongoing reviews of some of Smith's other papers.

Liss would not comment on the retractions, but said he was aware of them.

Many observers — including a blue-ribbon panel that issued a report in October — are calling for changes in the way research misconduct is dealt with in Canada.

Clark says there needs to be a more "transparent process" for handling misconduct allegations to ensure the accused have an opportunity to defend themselves.

Pickles and Shirkanzadeh say misconduct allegations should be promptly investigated: the names of scientists and institutions involved in misconduct should be made public when investigations are complete; and the research record should be corrected. And investigations, they say, should be done at arm's-length.

"Universities are not able to investigate their own," says Pickles, noting that big research money and reputations are often at stake.

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