IMPROBABLE RESEARCH

Scientific jokes that have a serious purpose

An investigation of hula-hooping yields valuable findings, as do other subjects rewarded with the Ig Nobel prize, writes **Lisa Wright**

Kees Moeliker was not thinking about prizes when he jotted down impromptu observations about the disturbing events that followed the death of a duck outside the Natuurmuseum Rotterdam in the Netherlands, where he is a curator. And when he wrote up his notes on "homosexual necrophilia in the mallard duck" for a scientific journal published by the museum, he says, he did not expect wide attention.

But then, he recalls: "I received an e-mail message from Marc Abrahams, requesting the reprint of the article. I mailed him a copy and a few months later I got a very confidential e-mail stating that I was selected to get the prize."

The prize was the potentially dubious honour of an Ig Nobel award, timed to be presented just before the Nobel awards are announced in Sweden.

The Ig Nobels are the brainchild of Mr Abrahams, who in 1991 saw the need for "an award for achievements that cannot or should not be reproduced". Since then, however, they have evolved and Mr Abrahams now aims to honour scientific research that might appear inane yet raises the profile of science with the general public.

> 'In the beginning I felt it was a dubious honour but on second thoughts it was very nice'

Entrants for this year's prizes – awarded last night (see right) – included a study on "exploring the dynamics of hula-hooping".

Mr Moeliker, like all potential winners, was offered the opportunity to refuse the prize. "I had to convince myself that it was a serious business and not a practical joke," says Mr Moeliker. The Ig Nobel judges always consult scientists in danger of winning in case an Ig Nobel prize would bring them professional ignominy.

Mr Abrahams, whose publication Annals of Improbable Research runs the Ig Nobels, says the prizes should be thought of as work that "first makes people laugh, then makes them think". The wording deliberately avoids distinguishing between real science that sounds merely amusing and nonsense science. "Underneath this is our hope that the few people that read the winners will think about the science and make their own decision," says Mr Abrahams.

The first Ig Nobel Prizes were awarded at Harvard's Sanders Theatre. "I had just become the editor of a science magazine and a lot of people were asking my advice as to how they could get a Nobel Prize," says Mr Abrahams. "I certainly didn't know but it seemed abundantly clear that they ought to get some kind of acknowledgment from somebody, somewhere."

Mr Abrahams says: "Until we get in touch we have doubts as to whether they really exist. In fact until we shake their hand we still aren't really sure."

The conduct of the prize-giving ceremony is very different from, say, the conventional Nobel awards. Science becomes a spectator sport and the audience has a tendency to throw paper aeroplanes, while any acceptance speech that lasts too long elicits a wailing voice: "I'm bored. Please stop. I'm bored."

Chemistry Nobel prize-winner (1976) William Lipscomb has been attending the awards for years, says Mr Abrahams: "He turns out to be one of the best stage performers on Earth. Since we have all these extraordinary people here we take advantage of that."

While the 2004 Ig Nobel prize for "exploring the dynamics of hula-hooping" sounds frivolous at first, the research involves physics and neuroscience and addresses a physics conundrum that has never been solved. "We are able to balance an object [hula-hoop] whose equations are not understood," says Ramesh Balasubramaniam, assistant professor at the University of Ottawa. "It addresses the question of what co-ordination is."

Mr Balasubramaniam and his colleague Michael Turvey, of the University of Connecticut, have found that the body relies on the relationship between the hip and ankle and the control of the knee joint to hula-hoop effectively. "I had never thought that I would be nominated for an award. In the beginning I felt it was a dubious honour but on second thoughts it was very nice," says Mr Balasubramaniam.

"We've been studying co-ordination for a very long time but without the Ig Nobel Prize we wouldn't have had the publicity. Now people are understanding the value of co-ordination."

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In the loop: a scientific study of hula-hooping has cast new light on the ttle understood physics and neuroscience of limb co-ordination PA

2004 WINNERS

Marc Abrahams and the Ig Nobel prize selection board chose winners in 10 categories from more than 5,000 nominations for this year's Ig Nobel Prizes.

Several prizes were given on topics that affect the quality of life: the effect of country music on suicide (medicine); the five-second rule on eating food dropped on the floor (public health); the invention of karaoke (peace); and "exploring the dynamics of hula-hooping" (physics).

The biology prize is for an international collaboration on how herring communicate by farting. The literature prize was awarded for preservation of nudist history, engineering for "patenting the combover" and psychology for showing concentrating on one thing means it is all too easy to overlook anything else – "even a man in a gorilla suit."

Two big organisations have won prizes: the Vatican, for outsourcing prayers to India (economics); and Coca-Cola Great Britain for the ill-fated launch in the UK of its bottled water brand, Dasani (chemistry).

SEX LIFE AND DEATH OF THE MALLARD DUCK

2003 biology prize – homosexual necrophilia in the mallard duck.

The death of a male mallard had been observed by Kees Moeliker after it flew into the windows of the Natuurmuseum Rotterdam, where he is a curator. Another male duck, thought by Mr Moeliker to have pursued the now dead duck, then mated with it for a period of time – constituting the first recorded observation of homosexual necrophilia in the mallard duck.

"In biology we are trained to keep our eyes open and report what we see," says Mr Moeliker. "I saw strange behaviour and I reported on it." Mr Moeliker's observations appeared in Deinsea, the zoological and palaeontological scientific journal of the museum.

Before winning the 2003 award Mr Moeliker had never heard of the Ig Nobels.

The Museum and Mr Moeliker's colleagues were supportive of his award. "They thought it was a good thing, the museum got lots of publicity – we are not just about exhibitions and collections."

Mallard duck: unusual behaviour

THE OBSERVATION OF AMOROUS OSTRICHES

2002 biology prize – courtship behaviour of ostriches towards humans under farming conditions in Britain.

This research into ostrich breeding was first described in the journal of British Poultry Science and addressed a serious issue. Charles Deeming, consultant to the hatchery industry and a part-time university lecturer, had noted breeding problems among the ostriches on his farm. "When I stood by the fence enclosing the ostriches I noticed they displayed [mating ritual]," says Mr Deeming. "We would stand near the fence for five minutes and watch the ostriches' behaviour," says Charles Paxton, now a postdoctoral researcher at the University of St Andrews. "We would then move away and watch them with binoculars for the same length of time."

Mr Deeming is still pursuing commercial research while Mr Paxton is lecturing on "science methods" at the St Andrews. "I will be teaching students about the philosophy behind science and what science really is," he says.

Study: ostrich breeding habits

KEYBOARD CAT WALKS (O OUT OF FASHION

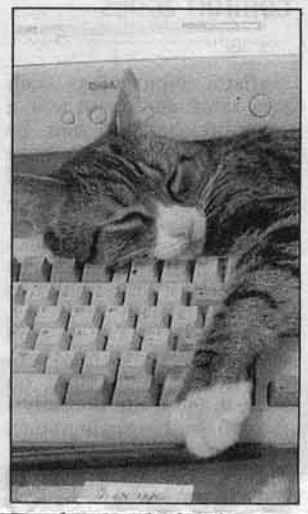
2000 computer science prize – PawSense Software.

PawSense is a program that detects when a cat walks across a computer keyboard and makes a noise to shoo it away. Chris Niswander, the software developer, recalls: "I thought this was an entertaining idea that would have commercial applications. . . It combines a number of practical considerations with my personal sense of humour."

The practical programming issues included being "open to the fact that people use their computers in a number of different ways," says Mr Niswander. "People typing in different languages or indeed using computer languages are not typing just jibberish."

Inputs to the algorithms included the relative timing of key presses as well as the operator's reaction to striking adjacent keys. "I didn't want the cat to be able to dance a fandago before being caught," says Mr Niswander.

He says the science selected for the awards stands or falls on its own merit. "It is sufficiently obvious which is true science and which is false. It is good to think about how we distinguish the two." He adds: "The awards are an entertaining thing to be involved in and kind of educational too . . . The informal lectures [part of the awards] contain substantiated science and are at the same time humourous."



Paws for scientific thought