



International Society of Biomechanics Newsletter

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AFFILIATE SOCIETIES OF ISB:

American Society of Biomechanics; British Association of Sport and Exercise Sciences; Bulgarian Society of Biomechanics; Canadian Society of Biomechanics/Société canadienne de biomécanique; Chinese Society of Sports Biomechanics; Comisia de Biomecanica Inginerie si Informatica (Romania); Czech Society of Biomechanics; Formosan Society of Biomechanics, Japanese Society of Biomechanics; Korean Society of Sport Biomechanics; Polish Society of Biomechanics; Russian Society of Biomechanics; Société de biomécanique (France).

**From the President
Christopher L. Vaughan
The professor as entrepreneur**

This article has been adapted from a commentary, with the same title, that appeared in the *South African Journal of Science*, 96: 154, 2000.

I first heard the expression "The Professor as Entrepreneur" in 1984, when I sat on the stage and listened to the speech of Alan Pifer after he was awarded an honorary degree by the University of Cape Town. Mr Pifer was president of the Carnegie Corporation in New York and has been a friend of higher education in South Africa for almost 50 years. Pifer's thoughts and ideas¹ of 15 years ago are just as relevant today as we contemplate what the new century holds for academic institutions around the world.

The Oxford Dictionary defines an entrepreneur as "one who undertakes a business or enterprise with the chance of profit or loss". It is the research enterprise, and the necessity of financing that enterprise, which I focus on here. This is a topic about which I will admit to some ambivalence. In the mid-1980s, I had the philosophy that the quality of a scholar's research was inversely proportional to the amount of money which was spent on it! In 1986, however, I accepted an academic appointment in the United States and for the next nine years I experienced first hand the pressures which accompany a research career in the "land of opportunity".

Shortly after my arrival in America, I recall hearing a story, which may have been apocryphal although it makes the point, that goes as follows. Two professors, who had done their PhDs together but had not seen one another for a few years, met up at a conference. The one asked: "Say, Larry, what kind of research are you doing these days?" and his colleague replied: "Oh, about \$250,000 per annum". Coming from South Africa, I found such attitudes anathema, but the reality for scientists in the US is that promotion, along with the elusive and closely-guarded prize of tenure, is not only dependent on research publications but particularly on one's ability to raise funds through grant-writing.

This was during the Reagan-Bush era, when the

number of biomedical scientists increased substantially but Federal funding to the National Institutes of Health (NIH) was essentially static. By 1992, the proportion of grants funded by the NIH had dropped to less than 20%, having been greater than 50% in 1980 when Reagan came to office.² What did this actually mean for biomedical scientists? With over 8,000 grants being submitted to the NIH each year, more than 6,000 were rejected and received no funding at all. David Wilson, a professor at the Massachusetts Institute of Technology, questioned the ethics of the Federal government in advertising requests for proposals, known as RFPs.³ It was not unusual for an RFP for a single grant to generate over 20 submissions, and Wilson's analysis demonstrated that the cost of the time spent by the unsuccessful academics in preparing their grants exceeded by far the total funds available for the grant itself. For many academics, the writing of grant applications had become an exercise in futility.

During my nine-year tenure in the US, I wrote 32 grant applications, totalling 1857 pages, of which only 9 were funded. A cynic might conclude that this was not a very satisfactory return on the time invested in grant-writing. The reality was that I was ahead of the game and faring better than the average academic. Besides, my department head expected -- and indeed my contract demanded -- that I raise half my annual salary through research grants.

What can we in this country learn from the top scientific journals? In a recent leading article in *Nature*, the writer stated that finding the magic formula for the successful transfer of technology from universities and governmental laboratories to commercial application is a perennial quest of governments around the world⁴. He extolled the benefits of the university system in the United States, where the system is always ready to take a chance on talented young faculty members, and advocated the need for public research agencies to accept responsibility and pass the baton of intellectual property rights firmly and unconditionally to the private sector. Last year, Gerhard Schröder, the Chancellor of Germany, declared in the journal *Science* that his government's paramount goal was to create the

conditions for higher levels of employment.⁵ He stated: "We must be receptive to new ideas and have the courage to change our way of thinking, because we can only succeed in international competition through innovation and growth. Our ultimate goal is to foster new partnerships between universities, research institutions, and the business community, for the better the cooperation is, the faster innovations will materialise". Others have commented that Europeans need to take a more venturesome approach,⁶ while Canadian academics have also been urged to commercialise their research results.⁷ In Japan, however, the government has discouraged closer links between university professors and private companies.⁸

Harold Varmus, the Nobel laureate, stepped down as director of the National Institutes of Health at the end of last year. Under his 7-year stewardship, the NIH's budget grew by 50% to reach \$16 billion, and the funding rate increased to over 33%. Astonishingly, despite the burden of leading the world's largest research centre, Varmus continued to work in the laboratory and publish. Among his disappointments, expressed in an interview with *Science*, is that electronic submission and review of grant applications has not yet been accomplished.⁹ Although our own National Research Foundation's electronic submission procedures suffered some early teething problems, we in South Africa are ahead of the NIH and the US National Science Foundation in this regard.

There are many areas where government-funded science initiatives provide important opportunities for professors to succeed as entrepreneurs. In South Africa, we have the Technology and Human Resources for Industry Programme (THRIP), which is funded by the Department of Trade and Industry who match contributions by private companies on a dollar-for-dollar basis, and the recently introduced Innovation Fund, which is supported by the Department of Arts, Culture, Science and Technology. In the USA, the Federal government has the Small Business Innovation Research (SBIR) programmes, while the European Union has the Fifth Framework Programme. I am convinced that

one of the biggest myths in grant-writing is that "there's no money out there".

There is great value to society in scientific research, because I know how exciting are the personal rewards to the successful researcher. However, I have also seen far too much scientific talent frustrated and directed into other endeavours because of a lack of funds. Without funds there can be no post-doctoral fellows, no post-graduate students, no running expenses, and no research equipment. In this case the end does justify the means.

As we in academia work hard to develop our research infrastructure, it behoves us to follow the advice of Thomas Ogden:² "This philosophy of support, is based on the premise that those who are successful in the system have a responsibility to those, particularly the young ones, who are not. There is nothing controversial here since the principles of good grantsmanship are as universal as those of good fellowship." While many of us may look back nostalgically to the days when professors did not have to concern themselves with mundane (even demeaning) activities like fund-raising, the reality for modern-day academics is that an entrepreneurial approach is the *sine qua non*.

1. Pifer A. (1984). The authentic university in a changing world. Graduation Address, University of Cape Town Press.
2. Ogden T.E. (1991). *Research Proposals. A Guide to Success*. Raven Press, New York.
3. Wilson D.G. (1993). Is honesty too much to ask for in RFPs? *Mechanical Engineering*, November, 78-79.
4. Anon. (1999). Technology transfer requires an entrepreneurial academia. *Nature* 401, 1.
5. Schröder G. (1999). Success through innovation. *Science* 284, 431.
6. Pickering C. (1999). Towards a more venturesome Europe. *Nature* 401, 209-210.
7. Spurgeon D. (1999). Canadian report urges universities to make research earn its keep. *Nature* 400, 805.
8. Normile D. (1999). Corporate ties off limits for academics. *Science* 284, 1905.
9. Marshall E. (1999). View from the top of a biomedical empire. *Science* 285, 1654-1656.

**From the Past President
Guenter Rau
ISB Elections**

As time passes by, some procedures have to be followed regularly. One of the intrinsic responsibilities of the ISB membership is to establish a renewed Executive Council. The procedures and regulations are documented in the Constitution and Bylaws. It is the task of the Past President to work with a group of nominators (the nomination committee) to make a proposal for the elections. Of course, the election of the President Elect is a special highlight because the candidates have to combine scientific reputation in the field of Biomechanics with management skills and leadership capacity.

I wish to ask the members of ISB to make their proposals for nomination of potential new Council Members. Any nomination proposal for President Elect has to fulfill the requirement that the nominee had been serving as a member of the ISB Council at least for one term (2 years).

**Please, send your nominations to the
Secretary General, Brian Davis
(davis@bme.ri.ccf.org) ASAP**

With this input a nomination list will be prepared which is balanced with proposed re-election of Council Members who are ready to serve another term: this is absolutely necessary to guarantee the continuity of ISB business.

The election process itself will be started in March 2001. Thank you for your cooperation.

**From the Editor: Mark D. Grabiner
Oh yeah...
one vote *can* make a difference**

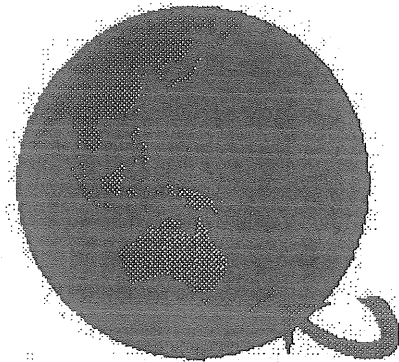
The first national election in the US since the end of the last century has finally unfolded. Well, actually, it's still unfolding. The winner is not yet decided and it may take another 10 days. The winner of the election may not win both the popular vote and the electoral vote. In fact, out of the total population of voting Americans in Florida,

the contest on which the Presidency hinges, the difference between the number of votes cast for the two candidates for president is less than 1000 at the time at which I write this sentence. This is uncommon in US elections. In addition, the voters of the great state of Missouri elected a dead man to Congress. The wife of the current President has been elected to the US Senate. Bill Clinton has extended his cable TV subscription at the White House. Collectively, this is the most interesting election I can remember.

Dr. Rau has brought to your attention that his committee is soliciting nominations from the ISB membership for new council members and for President-elect of ISB. It is unlikely that the upcoming ISB elections will have either the drama or world impact of the US elections. Nevertheless, I want to urge each ISB member to exercise his or her nominating privileges.

In addition, each ISB member should make it a point to cast their votes in the Spring for the Executive Council and President-elect. In the Spring ISB Newsletter, the last before we convene in Zurich, the candidates for President-elect will provide a biographical sketch highlighting their past accomplishments and their goals for the Society should he or she be elected. As we in the US have just recently found out, every single vote is important.

**From an Organizer ISB2003 in Otago
Peter Milburn**



The true spirit of the ISB is showing through in selecting venues to host the Congress that have spanned the globe in ten years - from Jyvaskyla in the north of Finland to the city of Dunedin, in

the south of New Zealand. The University of Otago, one of the most southerly universities in the world, is proud to be given the chance to show the true meaning of 'southern hospitality' when it hosts ISB2003.

While it may take you a while to get here, believe me, it'll be worth the trip! Dunedin (the ancient Gaelic name for Edinburgh) is a thriving university city rich in Scottish heritage that has long been recognised for its spectacular scenery, colourful history and the character of its people. While having all the benefits of a larger city, Dunedin has managed to retain an identifiable, human scale that will ensure you feel right at home. We're also planning satellite symposia in Auckland (home of the Americas Cup) and in Queenstown (adventure capital of the world) that will give you a chance to enjoy other parts of the country.

New Zealand's had a long association with biomechanics - I think we've attended every ISB congress - and some have gone on to become members of the ISB Executive. While the biomechanics community is small compared with other countries, there is a great breadth of skills and strong sense of collaboration that will ensure a successful Congress and pre-conference symposia.

Since you're here, come and see what the rest of New Zealand has to offer. Our clean green countryside, unpolluted lakes, rivers and seas, combined with a temperate climate, provide a magnificent environment to enjoy yourself. Just a few hours inland from Dunedin is one of the most stunning and unspoiled parts of the world. You can explore ancient beech forests, beautiful mountains, glacier-fed lakes, challenge your self at the home of bungy jumping, river-rafting and jet-boating, or indulge yourself in fine food and wine in one of New Zealand's premier wine-growing areas. This unique little corner of the world will deliver everything it promises...and more!

We'll be at ISB2001 in Zurich to tell you more.

**From the Awards Committee: Mary Rodgers
ISB Student Grant Guidelines**

Student members of ISB are eligible for the following three grants. A number of competitive grants will be awarded each year. All grant amounts are shown in US dollars. The application form is found after the description of the available grant programs.

The Matching Dissertation Grant Program

There will be several competitive grants of \$2000 made for doctoral dissertation research. A condition is that the applicant will have a commitment from her/his institution or another source to provide a further matching \$2000. This program is applicable to those who are doctoral candidates and are seeking assistance with costs of their dissertation research. Applications should include the following:

- a 3 page summary which includes the purpose, reference to key related literature, study design, methods, timetable for the measurements and budget.
- CV of the applicant: 2-3 pages in length (include list of publications, current grade point average, results of any standardized tests that the applicant has taken (i.e. GRE)).
- a document from her/his institution or other source which ensures provision of the matching \$2000
- a one page recommendation from the dissertation advisor who must also be an ISB member at the time of application.

Applications are to be received by January 26, 2001. Notification to applicants will be by March 28, 2001. Recipients will present results at the ISB Congress and acknowledge ISB support in any publications. A report to the council will include accounting of how funds were spent. Recipients will be encouraged to publish their work in one of the ISB-affiliated journals.

THE INTERNATIONAL TRAVEL GRANT PROGRAM

In order to allow student members to travel abroad to experience science in other cultures, we will offer several grants of \$2000 for travel related to biomechanics research. A report on the accomplishments during the trip will be expected by the Executive Council. Applications should include:

- 3 page proposal which includes the purpose of the visit, timetable, activities to be involved, the total budget for the visit (including other financial assistance, etc.)
- CV of the applicant: 2-3 pages in length (include list of publications, current grade point average, results of any standardized tests that the applicant has taken (i.e. GRE)).
- a document from the host institution verifying support for the visit
- a recommendation letter of support for the travel from the applicant's supervisor who must also be an ISB member at the time of application.

Applications are to be received by January 26, 2001. Notification to applicants will be by March 28, 2001. Recipients will submit a brief report to the committee which will be published in the Newsletter.

THE CONGRESS TRAVEL GRANT PROGRAM

This grant is offered only in the years of ISB Congress, therefore, this grant will be offered in 2001. ISB Congresses provide a wonderful opportunity for exchange of information and for meeting other scientists who can be influential in the development of new directions. By virtue of the need to move the congresses between different continents, it is often very difficult for students to afford to travel to the Congresses or to pay the registration fee if they can travel. We will offer several travel grants of \$1000 to student members who will be presenting their research results at 2001 ISB Congress. Applications should include the following:

- the proposal should have a maximum length of 3-4 pages including a copy of the submitted abstract and the total budget.
- CV of the applicant: 2-3 pages in length (include list of publications, current grade point average, results of any standardized tests that the applicant has taken (i.e. GRE)).
- a one page recommendation letter of support for the travel from the applicant's supervisor who must also be an ISB member at the time of application.

Recipients will submit a brief report to the committee which will be published in the Newsletter. Applications are to be received by January 26, 2001. Notification to applicants will be by March 28, 2001.

Grant applications should be mailed to:

Dr. Mary Rodgers
Department of Physical Therapy
University of Maryland
100 Penn Street
Baltimore, MD 21201 USA
Email: mrodgers@umaryland.edu
Telephone: (410) 706-5658
Fax: (410) 706-4903

Upcoming Meetings, Workshops, Etc.

Hey, HAL, it's 2001!

February

1st Annual Meeting of the International Society for Computer Assisted Orthopaedic Surgery. 7-10 February, Davos, Switzerland. Contact: CAOS-International, European Office, M.E. Müller Institute, P.O. Box 30, 3010 Bern, Switzerland. Tel: 41.31.632.8719, Fax: 41.31.632.4951, Email: caos@caos-international.org; www.caos-international.org

April

6th Annual Meeting of the Gait and Clinical Movement Analysis Society, 25-28 April, Sacramento, California. Contact: A. Bagley, PhD, Motion Analysis Lab, Shriners Hospitals for Children, 2425 Stockton Blvd., Sacramento, CA 95817, Tel: 916.453.2280, Fax: 916.453.2352, Email: abagley@shrinenet.org, www.gcmas.org <<http://www.gcmas.org>>

Advances in Objective Assessment of Hand/Upper Extremity Function and Outcome, 20-21 April, Genval (Brussels), Belgium. Contact: F. Schuind, MD, PhD, Department of Orthopaedics, Erasme University Hospital, 808 route de Lennik, B-1070 Brussels, Belgium, Tel : 32.2.555.68.44, Fax :32.2.520.35.56, Email: fschuind@ulb.ac.be

June

Fourth Combined Meeting of the Orthopaedic Research Societies of the USA, Canada, Europe and Japan, 1 Jun – 3 Jun 2001, Rhodes, Greece. Contact: Orthopaedic Research Society, 6300 N. River Road, Suite 727, Rosemont, IL,

60018-4226 USA; Tel: 847.698.1625; FAX:
847.823.4921; Email: ors@aaos.org.

July

VIII Symposium on Computer Simulation in Biomechanics, 4-6 July, Milan, Italy. Contact: F. Casolo, DSTM Politecnico di Milano, P.za Leonardo da Vinci 32, 25133 Milano. Italy. Tel: 39.02.23996706, Fax:

39.02.73671646casolo@mech.polimi.it;

<http://mech.polimi.it/convegni>;

<http://isb.ri.ccf.org/tgcs>.

XVIIIth Congress of the International Society of Biomechanics, 8-13 July 2001, Zurich, Switzerland, Contact: ISB2001, Wagistr. 4, CH-8952 Schlieren, Switzerland, Tel: +41 (0)1 633 6117, Fax: +41 (0)1 633 1124, Email:

isb2001@biomech.mat.ethz.ch,

www.isb2001.ethz.ch

September

Biomechanics of the Lower Limb in Health, Disease and Rehabilitation, 10-12 September 2001, University of Salford, England. Contact: J. Fletcher, University of Salford, Allerton Building A117, Frederick Road, Salford, M6 6PU, United Kingdom, Tel: 44.0161.295.7014 or 2211, Fax: 44.0161.295.2432, Email:

j.fletcher@salford.ac.uk,

<http://www.healthcare.salford.ac.uk/biomechanics2001>

Biomechanica IV, Davos, Switzerland, 23-25 September, 2001, Contact: <http://www.ao-asif.ch/events/ao/biomechanica/index.shtml>.

2002

3rd World Congress of Biomechanics, University of Calgary, Calgary, Alberta, Canada.

2000 DARWIN AWARDS

One of the long awaited moments of each new year is the announcement of the Annual Darwin Award... The prestigious recognition of those people who, by their own incredible, conscious actions remove their apparently faulty DNA/chromosomes from the gene pool... making a safer place for all of mankind to someday swim.

This is a global phenomenon and the 2000 nominations reflect the universal appeal and acclaim that this most prestigious award has grown to enjoy. So, without further ado, here are the runners-up for this year's award.

SEVENTH RUNNER UP, (15 JULY 1999, ALABAMA)
A 25-year-old man died of injuries sustained from a 3-story fall, precipitated by his attempt to spit farther than his buddy. His plan was to hurl himself towards a metal guardrail while expectorating, in order to add momentum to his saliva. In a tragic miscalculation, his momentum carried him right over the railing, which he caught hold of for a few moments before his grip slipped, sending him plummeting 24 feet to the cement below. The Military Specialist [NOTE: THAT MEANS HE WAS IN THE ARMY, NOT MARINE CORPS.] had a blood alcohol content of 0.14%, impairing his judgment and paving the way for his opportunity to win a Darwin Award.

SIXTH RUNNER UP, (11 AUGUST 1999 GERMANY)
A 42-year-old man killed himself watching the eclipse while driving near Kaiserslautern, Germany. A witness driving behind him stated that the man was weaving back and forth as he concentrated on the partially occluded sun, when he suddenly accelerated and hit the bridge pier. He had apparently just donned his solar viewers, which are dark enough to totally obscure everything except the sun.

TIE FOR FIFTH RUNNER UP AWARD GOES TO, (25 MAY 1999, UKRAINE)

A fisherman in Kiev electrocuted himself while fishing in the River Tereblya. The 43-year-old man connected cables to the main power supply of his home, and trailed the end into the river. The electric shock killed the fish, which floated belly-up to the top of the water. The man waded in to collect his catch, neglecting to remove the live wire, and tragically suffered the same fate as the fish. ...In an ironic twist, the man was fishing for a mourning meal to commemorate the first anniversary of his mother-in-law's death.

TIE FOR FIFTH RUNNER UP AWARD GOES TO, (16 AUGUST 1999, GERMANY)

A hunter from Bad Urach was shot dead by his own dog on Monday. The 51-year-old man was found sprawled next to his car in the Black Forest.

A gun barrel was pointing out the window, and his bereaved dog was howling inside the car. The animal is presumed to have pressed the trigger with its paw. Police have ruled out foul play.

FOURTH RUNNER UP AWARD GOES TO, (1999,
NICOSIA, CYPRUS)

Under similar circumstances, an Iranian hunter was shot to death near Tehran by a snake that coiled around his shotgun as he pinned the reptile to the ground. Another hunter reported that the victim, named Ali, tried to catch the snake alive by pressing the butt of his shotgun behind its head. The snake coiled around the butt and pulled the trigger, shooting Ali in the head.

THIRD RUNNER UP AWARD GOES TO, (AUGUST
1999, AUSTRALIA)

Drinking oneself to death need not be a long lingering process. Allan, a 33-year-old computer technician, showed his competitive spirit by dying of competitive spirits. A Sydney, Australia hotel bar held a drinking competition, known as Feral Friday, with a 100-minute time limit and a sliding point scale ranging from 1 point for beer to 8 points for hard liquor. Allan stood and cheered his winning total of 236 (winners never quit!), which had also netted him the literally staggering blood alcohol level of 0.353, 7 times greater than Australia's legal driving limit of 0.05%. After several trips to the usual temple of overindulgence, the bathroom, Allan were helped back to his workplace to sleep it off, a condition that became permanent. A forensic hematologist estimated that after downing 34 beers, 4 bourbons, and 17 shots of tequila within 1 hour and 40 minutes, his blood alcohol level would have been 0.41 to 0.43, but Allan had vomited several times after the drinking stopped. The cost paid by Allan was much higher than that of the hotel, which was fined the equivalent of \$13,100 USD for not intervening. He didn't require any further embalming.

SECOND RUNNER UP AWARD GOES TO, (28
JANUARY 1999, LONDON)

A flock of sheep charged a well-meaning British farmer's wife and pushed her over a cliff to her death. Betty Stobbs, 67, was charged by dozens of sheep as she brought them a bale of hay on the back of a power bike. The sheep rushed forward and rammed the vehicle, knocking Betty and her

bike over the edge of a vacant 100' quarry near Durham, in northeastern England. "I saw the sheep surround the bike. The next thing she was tumbling down the incline," neighbor Alan Renfry told reporters.

FIRST RUNNER UP AWARD GOES TO, (5 SEPTEMBER
1999, JERUSALEM)

The switch away from daylight savings time caused consternation among terrorist groups this year. At precisely 5:30 Israel time on Sunday, two coordinated car bombs exploded in different cities, killing three terrorists who were transporting the bombs. It was initially believed that the devices had been detonated prematurely by klutzy amateurs. A closer look revealed the truth behind the untimely explosions. Three days before, Israel had made a premature switch from Daylight Savings Time to Standard Time in order to accommodate a week of Slihot, involving pre-sunrise prayers. Palestinians refused to "live on Zionist time." Two weeks of scheduling havoc ensued. The bombs had been prepared in a Palestine-controlled area, and set on Daylight

Savings Time. The Confused drivers had already switched to Standard Time. As a result, the cars were still en-route when the explosives detonated.

AND THE 2000 DARWIN AWARD WINNER IS.....
(22 March 1999, Phnom Penh)

Decades of armed strife have littered Cambodia with unexploded munitions and ordnance. Authorities warn citizens not to tamper with the devices. Three friends recently spent an evening sharing drinks and exchanging insults at a local cafe in the southeastern province of Svay Rieng. Their companionable arguing continued for hours, until one man pulled out a 25-year-old unexploded anti-tank mine found in his backyard. He tossed it under the table, and the three men began playing Russian Roulette, each tossing down a drink and then stamping on the mine. The other villagers fled in terror. Minutes later, the explosive detonated with a tremendous boom, killing the three men in the bar. "There were no remains" Rasmei Kampuchea newspaper reported.

Thanks go out to Alan Litsky. The Ohio State University, for his annual summary of the Darwin Awards!

...applicants will be expected to have excellent communication skills...

These blurbs are from one of the Washington Post's Style Invitational Contests (page F2 on Sunday Style section) when they requested humorous analogies.

- He spoke with the wisdom that can only come from experience, like a guy who went blind because he looked at a solar eclipse without one of those boxes with a pinhole in it and now goes around the country speaking at high schools about the dangers of looking at a solar eclipse without one of those boxes with a pinhole in it. (Joseph Romm, Washington)
- She caught your eye like one of those pointy hook latches that used to dangle from screen doors and would fly up whenever you banged the door open again. (Rich Murphy, Fairfax Station)
- The little boat gently drifted across the pond exactly the way a bowling ball wouldn't. (Russell Beland, Springfield)
- McBride fell 12 stories, hitting the pavement like a Hefty Bag filled with vegetable soup. (Paul Sabourin, Silver Spring)
- From the attic came an unearthly howl. The whole scene had an eerie, surreal quality, like when you're on vacation in another city and "Jeopardy" comes on at 7 p.m. instead of 7:30. (Roy Ashley, Washington)
- Her hair glistened in the rain like nose hair after a sneeze. (Chuck Smith, Woodbridge)
- Her eyes were like two brown circles with big black dots in the center. (Russell Beland, Springfield)
- Bob was as perplexed as a hacker who means to access T:\flw.quid55328.com\aaakk/ch@ung but gets T:\flw.quidaaakk/ch@ung by mistake
- (Ken Krattenmaker, Landover Hills)
- Her vocabulary was as bad as, like, whatever. (Unknown)
- He was as tall as a six-foot-three-inch tree. (Jack Bross, Chevy Chase)
- The hailstones leaped from the pavement, just like maggots when you fry them in hot grease. (Gary F. Hevel, Silver Spring)
- Her date was pleasant enough, but she knew that if her life was a movie this guy would be

buried in the credits as something like "Second Tall Man." (Russell Beland, Springfield)

- Long separated by cruel fate, the star-crossed lovers raced across the grassy field toward each other like two freight trains, one having left Cleveland at 6:36 p.m. traveling at 55 mph, the other from Topeka at 4:19 p.m. at a speed of 35 mph. (Jennifer Hart, Arlington)
- The politician was gone but unnoticed, like the period after the Dr. on a Dr Pepper can. (Wayne Goode, Madison, Ala.)
- They lived in a typical suburban neighborhood with picket fences that resembled Nancy Kerrigan's teeth (Paul Kocak, Syracuse, N.Y.)
- John and Mary had never met. They were like two hummingbirds who had also never met. (Russell Beland, Springfield)
- The thunder was ominous-sounding, much like the sound of a thin sheet of metal being shaken backstage during the storm scene in a play. (Barbara Fetherolf, Alexandria)
- His thoughts tumbled in his head, making and breaking alliances like underpants in a dryer without Cling Free (Chuck Smith, Woodbridge)
- The red brick wall was the color of a brick-red Crayola crayon.

Thanks to Christine Kasuba, Department of Biomedical Engineering, The Cleveland Clinic Foundation, for this submission.

Real Quotes from... Real People

- Chicago Cubs outfielder Andre Dawson on being a role model: "I want all the kids to do what I do, to look up to me. I want all the kids to copulate me."
- New Orleans Saint RB George Rogers when asked about the upcoming season: "I want to rush for 1,000 to 1,500 yards, whichever comes first."
- Football commentator and former player, Joe Thiesmann: "Nobody in football should be called a genius. A genius is a guy like Norman Einstein."
- Senior basketball player at the University of Pittsburgh: "I'm going to graduate on time, no matter how long it takes."
- Bill Peterson, a Florida State football coach: "You guys line up alphabetically by height. And

you guys pair up in groups of three, then line up in a circle."

- Boxing promoter Dan Duva on Mike Tyson hooking up again with promoter Don King: "Why would anyone expect him to come out smarter? He went to prison for three years, not Princeton."
- Shaquille O'Neal on whether he had visited the Parthenon during his visit to Greece: "I can't really remember the names of the clubs that we went to."
- Lou Duva, veteran boxing trainer, on the Spartan training regime of heavyweight Andrew Golota: "He's a guy who gets up at six o'clock in the morning regardless of what time it is."
- Pat Williams, Orlando Magic general manager, on his teams 7-27 record: "We can't win at home. We can't win on the road. As general manager, I just can't figure out where else to play."
- Steve Spurrier, Florida football coach, telling Gator fans that a fire at Auburn's football dorm had destroyed 20 books: "But the real tragedy was that 15 hadn't been colored in yet."
- Torrin Polk, University of Houston receiver, on his coach, John Jenkins: "He treats us like men. He lets us wear earrings."
- Shelby Metcalf, basketball coach at Texas A&M, recounting what he told a player who received four F's and one D: "Son, looks to me like you're spending too much time on one subject."

Spare thoughts...

All those who believe in telekinesis, raise my hand.
I almost had a psychic girlfriend but she left me before we met.
OK, so what's the speed of dark?
Depression is merely anger without enthusiasm.
When everything is coming your way, you're in the wrong lane.
Hard work pays off in the future. Laziness pays off now.
Everyone has a photographic memory. Some just don't have film.
Shin: a device for finding furniture in the dark.
Many people quit looking for work when they find a job.
I intend to live forever - so far, so good.

Eagles may soar, but weasels don't get sucked into jet engines.

24 hours in a day ... 24 beers in a case.....coincidence?
When I'm not in my right mind, my left mind gets pretty crowded.

What happens if you get scared half to death twice?
I used to have an open mind but my brains kept falling out.

I couldn't repair your brakes, so I made your horn louder.

If at first you don't succeed, destroy all evidence that you tried.

Experience is something you don't get until just after you need it.

For every action, there is an equal and opposite criticism.

No one is listening until you make a mistake.
Success always occurs in private, and failure in full view.

The colder the X-ray table, the more of your body is required to be on it.

The hardness of the butter is proportional to the softness of the bread.

The severity of the itch is proportional to the reach.
To steal ideas from one person is plagiarism -- to steal from many is research.

The problem with the gene pool is that there is no lifeguard.

Monday is an awful way to spend 1/7th of your life.
The sooner you fall behind, the more time you'll have to catch up.

A clear conscience is usually the sign of a bad memory.
If you must choose between two evils, pick the one you've never tried before.

A fool and his money are soon parting.
If you think nobody cares about you, try missing a couple of payments.

Drugs may lead to nowhere, but at least it's the scenic route.

I'd kill for a Nobel Peace Prize.

Bills travel through the mail at twice the speed of checks.

Borrow money from pessimists-they don't expect it back.

Half the people you know are below average.
99 percent of lawyers give the rest a bad name.
42.7 percent of all statistics are made up on the spot.

Thanks to Rachel Skoss, University of Western Australia, for this submission.

EDITOR'S NOTE

The ISB Newsletter will be published one more time before the Congress in Zurich. Usually the Newsletter is published in the spring, summer, fall and winter. However, there have been published alternative printing schedules that happen to coincide with unbelievable errors. We now extend the alternative printing schedule to include those situations in which apathy and lethargy abound. This is one such time. There are no deadlines for newsletter material since historically they have never been taken seriously. However, since there will only be one more newsletter before the ISB2001 Congress, it is important to very seriously consider the fact that there are no deadlines...especially if you have no thoughts about submitting something. The Newsletter is published and distributed to members using the above deadline schedule. Members are encouraged to submit anything they would like to relate to the international biomechanics community. The content of the Newsletter does not necessarily reflect the philosophy and opinions of the ISB membership but definitely reflects the mood of the Editor at the time at which the item was received. It is likely that the content of the newsletter reflects somebody's philosophy and opinion at some time. We are not certain who is the responsible party or parties. Those interested in such trivia are referred to the ISB's legal department. This department can not be reached without a confirmed appointment. Members are encouraged to try to contact the legal department at any time, day or night. Newsletter items such as *Opinions*, *Affiliate Society News*, *Laboratory Features*, *Thesis Abstracts*, *Reviews of Biomechanics Meetings* are desirable and may be considered for publication if there is room. Material may be submitted electronically or on a computer disk as a text-only file, and must be in some form of English. The Editor reserves the right to translate the some forms of English to yet another form of English thus changing everything. Hard copy submissions of anything are acknowledged telepathically and placed in a recycling bin. Submission is not a guarantee of a timely or accurate appearance in the Newsletter.

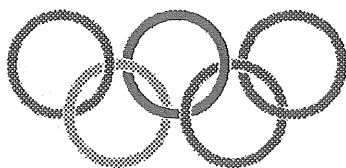
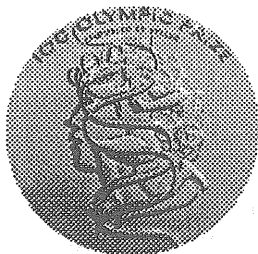
From the Treasurer: Graeme A. Wood

Enclosed with this issue of the ISB Newsletter is your "invoice" for next year's membership dues and (optional) journal subscriptions. Although all our fees are actually defined in US dollar amounts, payment is required in Australian dollar equivalents based on the current exchange rate (actually at an all-time low!). Prompt payment is in everybody's best interest. If the Aussie dollar falls further against the US dollar your Society will loose money in its dealings with the journal publishers; if the Aussie dollar improves, then any delay will cost you more money!

The prices of both Elsevier Science's journals (JoB, CB & JEK) and Human Kinetics journal (JAB) have increased in real (USD) terms.

Membership fees have not changed – just the exchange rate between the Australian and US dollar.

Please also take the time to correct any errors or omissions in your mailing address and/or contact details. This information is now automatically listed on our Web Site, but can be omitted if you so wish. Where the institutional details differ from the street address you've given us we designate this with the ">" symbol, and only print the latter on your mailing label.



IOC OLYMPIC PRIZE

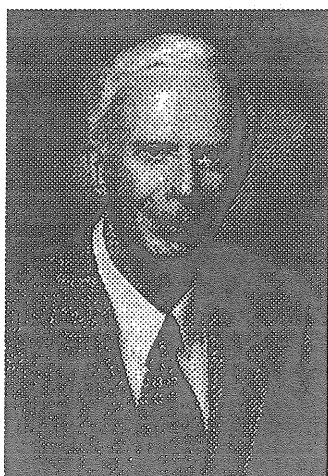
ENDOWED BY



Research Pioneer, Dr. John Holloszy, Recognized with the 2000 IOC Olympic Prize on Sport Sciences Endowed by Pfizer

In recognition of his contributions to the science behind enhanced athletic performance and disease state management, the International Olympic Committee (IOC) Medical Commission named John O. Holloszy, MD as the recipient of the 2000 IOC Olympic Prize on Sport Sciences endowed by Pfizer – the highest honor in the field of movement, exercise, and sport science.

After an extensive review by an independent selection committee consisting of some of the world's most accomplished scientists, Dr. Holloszy was selected from an illustrious list of candidates representing four continents.



Dr. John Holloszy

Dr. Holloszy was selected for his leadership in uncovering the mystery behind the correlation between muscle adaptation during exercise and its effect on the overall health of the human body. His groundbreaking discoveries led to significant breakthroughs in preventative medicine as it relates to heart disease, diabetes, obesity and the elderly.

The quality of life for millions affected by these prevalent disease states and aging has since been greatly improved due to Holloszy's initial understanding and subsequent discoveries of the impact of endurance exercise. His revolutionary discovery in 1967 also created the impetus that has helped to lay the groundwork for an entire field devoted to the study of movement, exercise, and sport.

"Pfizer is very proud to join the IOC Medical Commission in endowing this great honor. Dr. Holloszy's research in muscle adaptation has resulted in significant discoveries both in the treatment and prevention of degenerative diseases," said Henry A. McKinnell, President and COO, Pfizer. "Today, researchers, physicians and patients are now working together and making great strides in improving the overall quality of life of the elderly, and reducing the risk of heart disease and diabetes through exercise."

Holloszy established that insulin resistance plays a role in the development of coronary artery and heart disease, diabetes, and obesity and that exercise involving muscle contraction lowers insulin resistance, therefore reducing the risk of these widespread diseases. The impact of his research findings has been extended even further with the prescriptive use of exercise for the elderly due to Holloszy's research linking regular exercise and increased longevity.

Holloszy's exercise research has also had widespread influence on competitive sports, by enhancing training techniques utilized by elite and amateur athletes worldwide.

"As a result of Dr. Holloszy's findings researchers, athletes, Olympians and their coaches around the world are working together to increase overall athletic performance through applied science and training," said Prince Alexandre de Merode, Chairman of the IOC Medical Commission. "Today, we are seeing the positive impact of science on training like never before and anticipate that even more world records will be broken as a result of this philosophy."

From his laboratory at Washington University School of Medicine in St. Louis, Dr. Holloszy is responsible for laying out the scientific methodology that enables athletes to increase their endurance as they train, and to provide a rationale basis for athletic training that continues to test the limits of human performance.

"Dr. Holloszy's research on endurance exercise has had a tremendous impact on athletic competition," said Lenny Krayzelburg, World Champion Swimmer and U.S Olympic hopeful. "By incorporating his findings on muscle development into training programs, athlete today can naturally maximize their performance while significantly reducing their wasted energy."

The highest honor given in the field of movement, exercise and sport sciences, the IOC Olympic Prize on Sport Sciences honors outstanding movement, exercise and sport-related scientific research that has had a significant impact on science and/or society.

“It’s a great honor to be recognized by the IOC Olympic Committee, my colleagues, and Pfizer for this distinguished award,” commented Holloszy. “I have devoted my entire career to making exercise a valid area of research and showing how it can help protect people against and reverse heart disease and diabetes.”

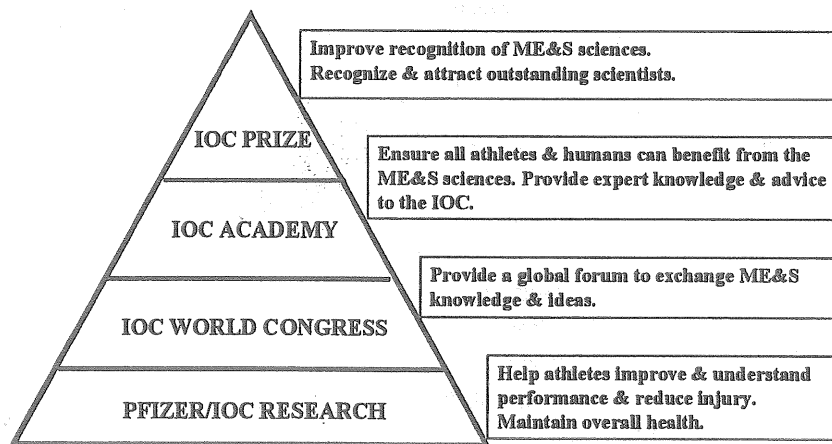
Holloszy will receive \$500,000, a certificate of excellence and an Olympic medal to be awarded September 10 during the opening ceremony of the IOC Executive Session as part of the 2000 Olympic Games in Sydney, Australia.

In addition to the IOC Olympic Prize on Sport Sciences, Pfizer endows three other IOC Medical Commission programs including the IOC Olympic World Congress on Sport Sciences, the IOC Olympic Research on Sport Sciences and the IOC Olympic Academy on Sport Sciences. The IOC Medical Commission relationship began in 1994 with Parke-Davis, a subsidiary of Warner-Lambert, which was recently acquired by Pfizer.

The next IOC Olympic Prize will be awarded during the Olympic Winter Games in Salt Lake City. The deadline for nominations will be April 1st 2001. For more information, please contact the chair of the Selection Committee of the IOC Olympic Prize at the following address:

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PROGRAM FOUNDATION





**Pfizer/IOC Medical Commission Sport
Science Research Projects
Sydney 2000 Olympics**

Bruce Elliott
Project Coordinator
IOC Medical Commission

The Olympic Games in Sydney saw the inauguration of the Pfizer/IOC Olympic Research on Sport Sciences. This research partnership between Pfizer and the IOC Medical Commission Projects has two major purposes:

- to protect the athletes from excessive forces
- to enhance performance using improved understanding of the functioning of the athlete's body.

These kinds of biomechanics research projects started at the 1984 Olympic Games in Los Angeles. The projects are planned, organized and executed as a co-operation of the IOC Medical Commission, the corresponding International Federation and a selected research team.

The research projects for the Olympic Games in Sydney were selected through a thorough scientific selection procedure. A call for research project proposals was conducted in relevant scientific journals and on the web. A total of 43 project proposals were received for consideration. They were submitted by scientists from 15 countries and concentrated on 17 different sports. A scientific review committee co-chaired by Drs. R. Nelson and B. Elliott reviewed the submissions. The evaluation was guided by the following criteria: (a) quality of the science, (b) applicability of the findings to Olympic athletes, (c) applicability of the findings to athletes of all ages and abilities in general and (d) the need to collect the data during the Olympic Games. Nine project proposals were accepted, seven for projects during the Olympic Games and two for projects related to the Olympic Games with data collection before the Games.

PRE-OLYMPIC PROJECTS

Morphological Correlates of Equipment Set-Up and Performance Among Olympic Kayak Paddlers, Canoeists and Rowers

Dr. Tim Ackland
University of Western Australia, Australia
Kinanthropometric measures were taken from participating Olympic athletes in rowing, canoeing and kayaking, prior to the start of the Olympic Games, to study the relationship between body measures and performance. The project had wide support and the majority of athletes and national federations participated. The participating athletes were given their results during the Olympic Games. The kinanthropometric measures along with each individual boat set-up and the Olympic performance of the above athletes will be analyzed and studied following the Olympic Games.

Monitoring and Evaluation of Training and Performance of Canadian Olympic Swimmers

Dr. David Smith
University of Calgary, Canada
The purpose of this project was to follow potential Olympic athletes in swimming during the preparation phases for the selection trials and the Olympic Games. A number of Canadian swimmers were tested, primarily with respect to their blood biochemistry. The data is being analyzed to understand the potential factors responsible for appropriate preparation of high performance swimmers.

OLYMPIC PROJECTS

Factors Contributing to Gymnastics Landing Performance During Olympic Competition

Dr. Jill McNitt-Gray,
University of Southern California, USA
The purpose of this project was (a) to identify factors related to landing performance and (b) to determine factors responsible for high landing forces in gymnastics. Gymnasts were filmed during the floor exercises, the vault and landing from the high bar. The information will be analyzed in order to potentially improve the floor surfaces so that they absorb more energy and reduce the chance of injury as well as to provide gymnasts of all levels with information regarding

why they either hit or missed their landing. The aim is to help gymnasts continue to raise the level of competition in a safer environment.

Release Mechanics for High Bar Dismounts

Dr. Fred Yeadon, Loughborough University, UK
The purpose of this project was to identify factors (a) related to performance and (b) responsible for high forces during high bar (male) and uneven bar (female) performances. Gymnasts were filmed to study release and re-grasp techniques. The information gathered will be analyzed after the Olympic Games.

Techniques Used in Performing the Handspring-Double Forward Tucked Vault

Dr. Yoshi Takei, Southern Illinois University, USA
The purpose of this project was to identify factors (a) relevant for teaching this element and (b) responsible for excellent performance. Male gymnast vaulters were filmed performing the above vault. The information gathered will be analyzed after the Olympic Games.

Fatigue and Implications to Shoulder Injury in the Tennis Serve

Dr. Glenn Fleisig, Birmingham Sports Medicine Clinic, USA
Aiming to provide insight into the cumulative effects of fatigue during repetitive, stressful overhead activity, the purpose of this project was to determine shoulder forces during the tennis serve and relate the results to possible fatigue and injury. Players were filmed, where possible over multiple matches, so that joint loading at the shoulder could be calculated. Comparisons will be made (a) over a match, (b) between 1st and 2nd serves, (c) between repeated matches, (d) between different speeds (e) for selected service styles. Computer software will be used to reconstruct the mechanics of the shoulder and help to analyze the data collected from the high-speed cameras. Once the information has been analyzed, the findings hope to help with training and rehabilitation for tennis players of all levels. The ultimate goal is to help players to serve safely but efficiently and effectively, without compromising performance.

Competition Swimming Analysis at the Sydney Olympic Games

Dr. Bruce Mason
Australian Institute of Sport, Australia
This project had two components, a service and a research component. The service component consisted of data on stroke rate and length, velocity, start, turn and times for selected sections of the races that were provided to coaches shortly after the heats/semi-finals and finals so that they could analyze the performance of all the competitors. The research part consists of further analysis of the data with respect to (a) consistency of performance over heats/semis and finals, (b) tactical changes over the heats/semis and finals, (c) performance variations caused by "new swim suits" and (d) identification of performance indicators.

Kinematics and Kinetics in Pole-Vaulting: Energy Storage and Energy Return

Dr. Peter Brüggemann, German Sports University, Cologne, Germany
The purpose of this project was to improve vaulting technique, while at the same time reducing the potential for lower back injuries. All male and female pole-vault finalists were filmed in this project. The kinematic data collected at the Olympics will be combined with force data previously collected to determine internal loading.

Energy Produced and Lost on Sprinting Performance

Dr. Darren Stefanyshyn
University of Calgary, Canada
The purpose of this project was to determine the influence of shoe sole stiffness on running performance. All male and female 100 m sprint races were filmed. Data on the movement characteristics of the foot and leg will be combined with data previously collected to modify the design of running shoes to improve efficiency and performance. If compared to previous biomechanics studies undertaken at the Olympic Games, the selected projects for the Sydney Games had a new aspect.

For three of the nine projects chosen, the Olympic data collection was just one component of a larger project. This combination of laboratory and field data allows for a better study design and relevant findings are, hopefully, more likely. Future Olympic projects are encouraged to move in this direction.

In conjunction with the actual research projects, three Newsletters were produced and distributed during the Sydney Games to promote the Pfizer/IOC Medical Commission's sport sciences activities, specifically the IOC Olympic Prize and the Pfizer/IOC Olympic Research Projects.

These newsletters were distributed to the IOC Family in an effort to spread awareness of the programs. Additionally, four media conferences (IOC Olympic Prize, Pfizer/IOC Research, Swimming, and Sprinting and Pole Vault) were held during the Sydney Olympic Games. They resulted in numerous newspaper reports and television interviews publicizing the value of science in athletic performance.

Further information about the Pfizer/IOC Medical Commission Research Projects can be obtained from:

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ISB Membership News

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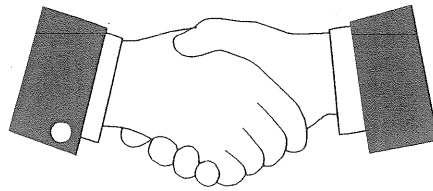
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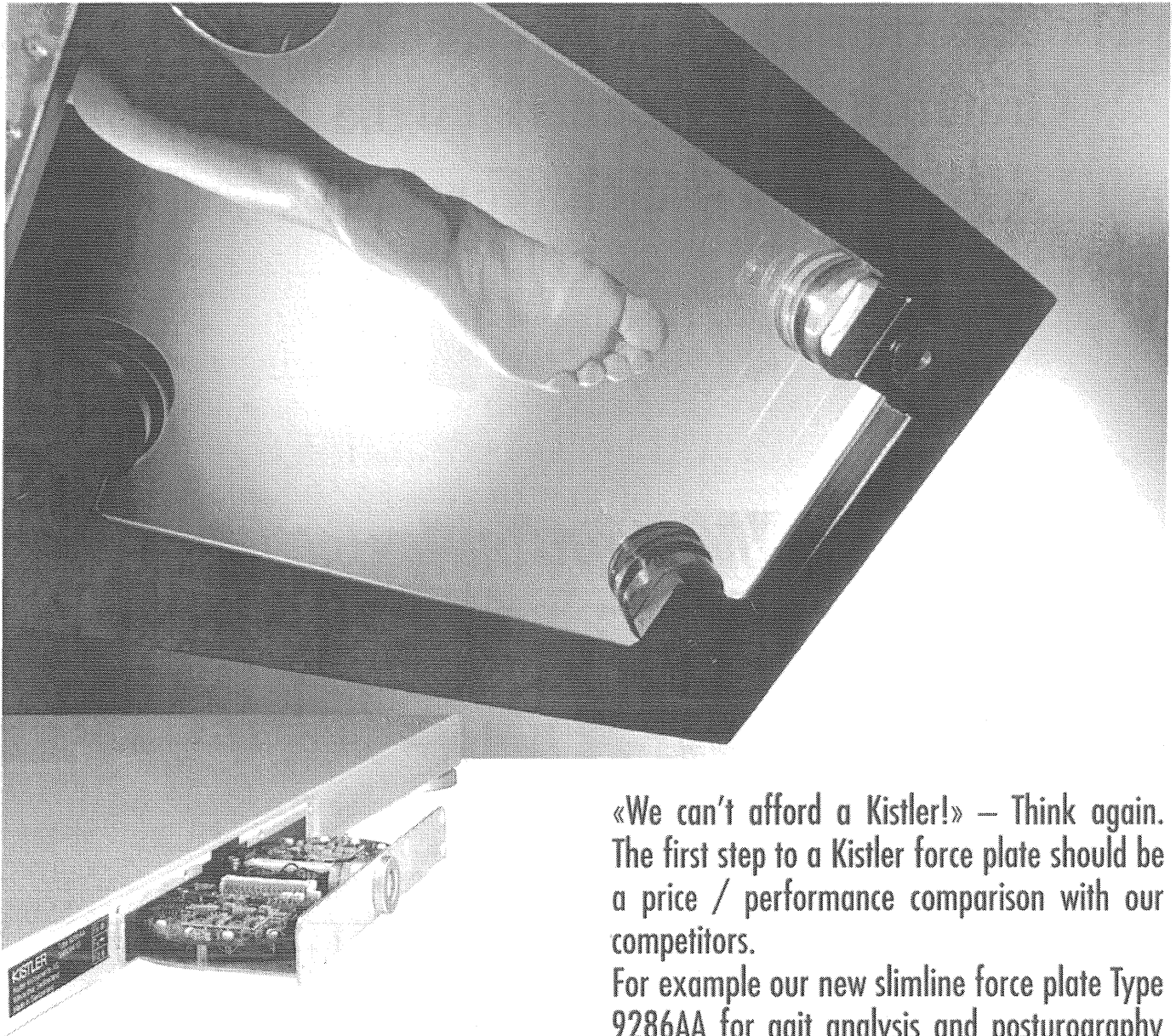
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