



International Society of Biomechanics Newsletter

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ISB Officers

PRESIDENT

Dr. Brian L. Davis
Department of Biomedical Engineering
The Lerner Research Institute (ND 20)
The Cleveland Clinic Foundation
9500 Euclid Avenue
OH 44195, USA
Tel: 216 444 - 1055
Fax: 216 444 - 9198
E-mail: davisb3@ccf.org

PRESIDENT-ELECT

Dr. Walter Herzog
Faculty of Kinesiology
University of Calgary
2500 University Drive
Calgary, AB T2N 1N4
CANADA
Tel: (403) 220-8525
Fax: (403) 284-3553
E-mail: walter@kin.ucalgary.ca

PAST-PRESIDENT

Dr. Mary Rodgers
Dept. of Physical Therapy &
Rehabilitation Science
University of Maryland School of Medicine
100 Penn Street
Baltimore, MD 21201USA
Tel: (410) 706-5658
Fax: (410) 706-4903
E-mail: mrogers@umaryland.edu

SECRETARY-GENERAL

Dr. Julie R Steele
Department of Biomedical Science
University of Wollongong
Wollongong NSW 2522
AUSTRALIA
Tel: 61-(0)2-42213881
Fax: 61-(0)2-42214096
E-mail: julie_steele@uow.edu.au

TREASURER

Dr. Graeme A. Wood
PO Box 3156
Broadway
Nedlands, WA 6009
AUSTRALIA
Fax: 61-8-97 64 1643
E-mail: gwood@cygnus.uwa.edu.au

NEWSLETTER EDITOR

Dr. Karen Søgaard
National Institute of Occupational Health,
Lersø Parkallé 105
DK-2100 Copenhagen
DENMARK
Phone: +45 39 16 53 46
Fax: +45 39 16 52 01
Email: ks@ami.dk

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AFFILIATE SOCIETIES OF ISB:

American Society of Biomechanics; Australian and New Zealand Society of Biomechanics; Brazilian 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; International Society of Biomechanics in Sports, Japanese Society of Biomechanics; Korean Society of Sport Biomechanics; Polish Society of Biomechanics; Russian Society of Biomechanics; Société de biomécanique (France), Taiwanese Society of Biomechanics.

Making mistakes

Brian L. Davis, Ph.D., ISB President

As I write this column, I happen to be in Cape Town, South Africa. Last week I attended the 19th World Diabetes Congress ---with about 15000 other visitors to the city! While the meeting was extremely well organized, I couldn't help but think that ISB congresses, with between 500 and 1000 delegates, allow for more personal interactions than one gets at these huge meetings. Whilst the topic of diabetes does not relate to this column, a comment made by one of the speakers does. He quoted J. A. Lindsay's claim, "For one mistake made for not knowing, ten mistakes are made for not looking". This quote clearly relates to biomechanics research. This made me think of situations such as, (i) writing computer code for processing data...and assuming that if the code worked for control cases, it will work for pathological cases, (ii) finding a significant ($p < 0.05$) result and then never checking to see if the results are repeatable, (iii) finding significant differences between groups and not looking to see if there were confounding variables (e.g., if a control group was found to be different to a knee pain group, could it be because of differences in gait speed rather than differences in knee mechanics?), and (iv) not performing exhaustive literature searches before embarking on a new study. When it comes to these kinds of mistakes, the main difference between a mentor and a student is that the mentor has already made them, whereas the student has yet to dip his/her toe into the great sea of possible mistakes!

Having said this, I think it is fair to point out that mistakes are not always negative. One of my great "learning experiences" was when I was an undergrad student doing a summer job. My work entailed drawing the air-conditioning duct layout for a new shopping center. For some unknown reason I worked on the layout from the east and west sides of the building---with the idea that I would have the two systems meet each other. Well, on the last day of my 2-month summer job, I discovered the duct junction was off by about 6 inches! With some trepidation, I approached my boss with this news. I hastily told him that I would fix the problem over the next two weeks if he would allow me to do so.

The end result was that I had an open invitation to join this company if I ever chose to work in the air-conditioning industry! I guess some mistakes can have happy endings, however admitting your errors at the first possible opportunity is necessary.

While on the topic of admitting errors, I would like to explain the title of this column. It stems from the feedback I received after I presented a table in the last newsletter showing costs for members of various professional societies. The mistake I made was that I neglected to indicate that the ESB includes journal subscriptions in their annual dues. Thus their membership rate should not be seen as being the highest of the biomechanics societies. For any problems that this caused, I apologize to the ESB.

I'd like to share the following thoughts with younger and/or student members of ISB:

On submitting ideas/comments to *Biomch-L* :

1. Always ask peers to read your email before you send it to >6000 subscribers.
2. Avoid humor that could offend people in other parts of the world.
3. Avoid criticizing others in a public forum.
4. Do your homework before asking for answers to a simple question.

On writing letters to the editor of a journal:

1. If you want to comment on someone else's work, stick to one issue, rather than commenting on a number of issues.
2. Have a knowledgeable person read your letter before you send it to the editor.
3. Focus on scientific (not personal) issues.
4. Put yourself in the position of the original author who has to read your letter.

On that note, I wish our membership a "Happy New Year" for 2007.

Brian L. Davis.

***In Memoriam:* Robert W. Mann 1924 – 2006**



It is with profound sadness that I share the news of the death in mid-June of Professor Robert W. Mann of the Massachusetts Institute of Technology. Prof. Mann's many contributions reached from internal power systems for rockets to computer-aided design to rehabilitation aids for the disabled to the first measured data on the distribution of pressure in a human joint leading to a new understanding of the mechanics of articular cartilage and osteoarthritis. He was one of only a hand-full of people to be elected to the U.S. National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

Bob was born in 1924 in Brooklyn, N.Y., and attended Brooklyn Technical High School. He served in the U.S. Army in World War II, and attended MIT a student on the GI Bill. He received the S.B. degree in 1950, the S.M. in 1951 and the Sc.D. in 1957.

Bob shared with me a story from that time. He was anxious to complete his studies and leave academia to make his mark and his fortune in the corporate world. His roommate was equally determined to remain in academia as a faculty member and researcher. In an odd twist, it was Bob who pursued a distinguished career in academia, while his roommate, Kenneth H. Olson, went on to co-found the Digital Equipment Corporation (DEC).

In the late 1950's and early 1960's, Dr. Mann was a leading voice in the development of advanced thinking about the teaching and practice of engineering design. The course notes from an NSF-sponsored summer course that he organized on the topic are a model of his passion and his clarity of thought. He brought new light to an ancient topic, including working with both Steven Coons and Ivan Sutherland while they were at MIT, two of the founders of the field of Computer-Aided Design.

At roughly the same time, in his first foray into the development of technology to assist the disabled, Dr. Mann and others at MIT developed a computer program for translating English text into Braille. The resulting device, capable of printing Braille, known as MIT Braillem boss, has been widely used. He also developed glasses with ultrasonic range finders to assist the mobility and independence of the blind.

In the 1960's, with support from the Liberty Mutual Insurance Company, Dr. Mann led the development of the "Boston Arm", a computer-controlled above-elbow prosthesis that sensed nerve activity in remaining muscles to control the motion of the arm. This device was a landmark in that it was the first device to use neural signals, rather than the amputee's muscles and movements, to control an electromechanical prosthesis.

From the mid-1970's through his retirement, Dr. Mann's work concentrated on developing an understanding of the mechanics and tribology of articular cartilage. I had the privilege of working as a graduate student under Bob's supervision from 1976 through 1982, and as a post-doctoral researcher through 1984. During that time, dozens of students and researchers worked in the Eric P. and Evelyn E. Newman Laboratory for Biomechanics and Human Rehabilitation at MIT on a variety of projects focused on measuring the forces and pressure distributions in the human hip. The results, published in the *Proceedings of the National Academy of Sciences*,¹ reported the first measurements of the detailed distribution of pressures across the human hip joint. This work establishes a solid foundation for the understanding of the mechanics of lubrication of articular cartilage, and will guide research leading to a comprehensive view of the development of osteoarthritis.



Professor Robert W. Mann, right, views an experiment in the MIT hip simulator with Soviet academician Victor Gurfinkel in the late 1970's. (MIT file photo/Calvin Campbell)

In addition to his many achievements, Bob was a cultured and warm mentor and advisor. The annual barbeque at his home in Lexington was emblematic of his involvement with the members of his research group. His devotion to his wife, Margaret, was a constant and visible element of his life. She a graduate of Radcliffe, and he from MIT, their life was as intertwined with Cambridge and Boston as if they had participated in the Boston Tea Party themselves during the American Revolution. Bob met and married Margaret, a researcher at MIT on the Whirlwind Computer Project, in 1950; she died in 2002.

I have relied on Bob's wise counsel and guidance at many points in my own academic career. Among many other memories, I distinctly recall his calming advice to me, then a young graduate student about to address a national professional conference for the first time. I asked how he was able to be so relaxed and collected when addressing a large audience. He observed that nervousness is a natural consequence

of concern about doing a good job, and therefore should be welcomed as a motivator to be well prepared. The time to be concerned, he noted, is when you are *not* nervous. It is advice that I have used repeatedly, and has been passed on to my own graduate advisees.

Above his many distinguished scientific and research accomplishments, the wisdom that he passed on to generations of students, who continue to pass it along to yet more generations of students, is the greatest tribute to his influence.

Erik K. Antonsson, Ph.D., P.E.
Professor of Mechanical Engineering
California Institute of Technology
Pasadena, CA, U.S.A. June 29, 2006

¹ Kjirste C. Morrell, W. Andrew Hodge, David E. Krebs, and Robert W. Mann, "Corroboration of *in vivo* Cartilage Pressures with Implications for Synovial Joint Tribology and Osteoarthritis Causation", *PNAS*2005, 102:41, pp. 14819-1482.

Graeme Wood:
ISB treasurer, Membership officer, former newsletter editor,
current newsletter “producer”, ISB Congress Chairman and ISB historian

Brian Davis: Graeme is the “go to” person on all issues related to ISB traditions and the way ISB conducts its business. He knows our corporate sponsors very well, he knows the procedures that need to be followed when the ISB receives requests to endorse products/meetings/publications etc, he knows the formalities that go along with awards such as the Wartenweiler address and the Muybridge award, and he is often the arbitrator when two versions of the constitution are occasionally presented at council meetings! Graeme has the personal touch that allows him to make new members on council feel welcome.....and he has a way of reminding ISB presidents that a procedure has been overlooked or that protocols are not being followed -- without offending anyone. An example of his gentle way of solving problems was apparent when I gave an oral presentation at an ISEK meeting in Florence in 1992. I was attending for a single day, and when I arrived I discovered that (i) my talk had been rescheduled for another day, and (ii) my hayfever allergies had kicked into high gear! In true diplomatic fashion, Graeme managed to (i) fit my presentation into the session he was chairing without offending the other speakers, and (ii) find a ready supply of tissues and water to calm my fits of sneezing and coughing!

Graeme: for all your help while I was ISB secretary, newsletter editor and now president---many, many thanks!

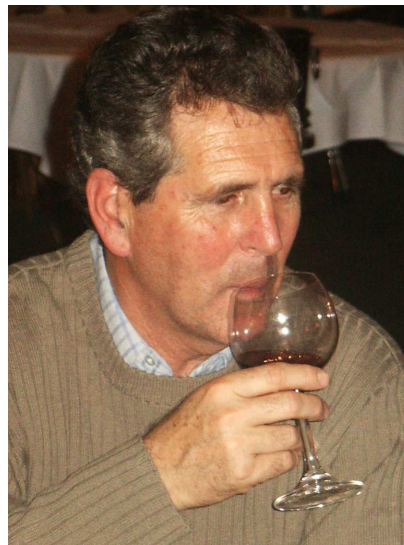
Guenter Rau: When we organized the 1st “International Congress on Mechanics in Medicine and Biology (ICMMB)” at Aachen back in 1978, a young investigator from Australia showed up accompanied by his family. His name? Graeme Wood. Since then we have met many times on different occasions and in various countries.

Graeme has developed a very clear view and intelligent understanding of human behaviour patterns especially within the scientific community of ISB. In several delicate situations he helped me to find adequate solutions for problems in my capacities as President Elect in Japan in 1988 when I had to run the ISB business on behalf of the President Dick Nelson and, of course, later again as President in 1997-1999. He always had the relevant background information of scientific societies, nationalities, personal characters, individual animosities etc., and he has all the years been clear, friendly, efficient and reliable in handling ISB business as e.g. membership affairs, establishment of the News

Letter, and handling the finances. Nevertheless, due to his friendly “insistence” the ISB members gradually get used to paying their annual fees with more or less pleasure – but most of them paid.

Many exceptional meetings with him come to my mind – I just wish to mention two of them because they demonstrate his positive and constructive way of problem solving. Once, four ISB guys went out for dinner in Tokyo. We found a small and typical Japanese restaurant; it was so typical that nobody could speak English! The odours from the kitchen smelled seductive but we had to communicate our order to the people, and meanwhile a crowd of Japanese guests was standing around our table discussing vividly in Japanese. Finally Graeme had the idea to tell them what meat we wish to order by first painting the animals (which were rather poor drawings) and then further clarifying the selection by the according noises of the animals (barking was excluded). It worked and we had a great dinner that night!

In Dublin, Graeme and I went out to one of the native pubs and we had to solve the serious problem of how to order “two Guinneses”. We explicitly excluded the possibility of ordering “two pints of Guinness” – that would have been too simple. Should we ask for two Guinnae? Two Guinnaes? Graeme started with “two Guinness”, I followed with “two Guinneses” and both worked! Later, Kit Vaughan also tended to Graeme’s view, but they are both from the Southern Hemisphere! Can anyone resolve this issue?



Remember, ISB is one of the few international scientific societies with individual membership. Because of the strong segment in sports sciences it has demonstrated to be a valuable multinational link comprising different political, economical, and social systems in the world. Graeme knows all the members individually, and each member knows Graeme in person. The ISB members are very much indebted to Graeme who has been over many years a major factor of stability for ISB: he served not only as an excellent treasurer but, in fact, he has developed to be the “glue” keeping the ISB with its individual members together.

Benno M. Nigg: Graeme is part of the ISB history. His contribution was effective and always to the point.

Bob and Jean Ann Norman: This is a quote FROM Graeme to my wife, Jean Ann, and me when Graeme and his two children stayed in Waterloo at our home

with us from mid November to Dec. 24 about 1992 or so. Graeme had picked us up at work in our car to take his children for some site-seeing in Toronto. It was a very cold December day, about 15 below zero Celcius. Everything was freezing. Near the Toronto airport, about 1 hour away from Waterloo, Graeme suddenly asked: "When you asked me to put the dog out on her rope, did you also mean that I should bring her in, before I left home to pick you up to go to Toronto?" We phoned a neighbour to put our very cold dog in the house. But how would an Aussie, not used to Canadian winters, know about canine hypothermia? I suspect he learned fast because his next stop for a few weeks was in Saskatchewan in Western Canada, a place that even Canadians avoid in winter because it is so cold. Graeme, your contribution to the ISB and its members around the world has been enormous for many, many years. It was a privilege for me to have a chance to get to know you and your family well, and to work with you in Canada, in Australia and elsewhere. Thank you and warm, warm wishes for your future endeavours.

ISB 2007 Taipei Tzyy-Yuang Shiang

Welcome to the ISB 2007 Taipei Taiwan XXI ISB conference. This five day conference, from July 1st to July 5th, will bring together researchers from the fields of biomechanics, bioengineering, clinical biomechanics, ergonomics, gait analysis, neuromuscular mechanics, and sports equipment design just to name a few. This undoubting will offer a unique forum for the dissemination and discussion of the most current research to date.

Abstracts and Posters

Four out of the five days conference will be dedicated to keynote, special themes, abstract presentations, as well as poster sessions. **Just a reminder due date for abstracts have been extended to 2/15/2007.**

Abstracts for podium and poster presentations are welcomed in the areas of: biomechanics, bioengineering, ergonomics, clinical biomechanics, gait analysis, kinematics, kinetic and EMG assessment, neuromuscular mechanics, sports equipment design, and so on.....

Keynote Speakers

We are proud to say we have sixteen keynote speakers in the conference. Four are sponsored through scientific programs. The opening lecture will be given by Dr. Savio Woo in the afternoon of July 1st followed directly by Dr. Kai Nan An who will give the Wartenweller Memorial lecture. The Muybridge award lecture will be given by Professor Peter A. Huijing July 4th from 10:00 to 10:40. The closing ceremony address will be sponsored by the president's lecture and given by Dr. Brain Davis the last of the conference July 5th from 15:00 to 16:00.

Social Events

A welcoming reception will be held July 1st from 6:00 to 10:00 at Taipei 101 on the 84th floor presently the world's tallest skyscraper. Various city tours can be arranged by local travel agent during the conference. On the last day of the conference following the closing ceremony a tour of the National Palace Museum will be given from 16:30 to 19:00 followed by a banquet 19:00 to 22:00 also at the National Palace Museum.

Correspondence address:

<http://www.isb2007.org>



International Society of Biomechanics

From: The Treasurer
Dr Graeme A. Wood
PO Box 3156, Broadway
Nedlands, WA 6009
AUSTRALIA

Voting for the 2007-2009 ISB Council Elections has now commenced and will conclude on 28 February, 2007.

Elections are being conducted electronically at the Society's website <http://isbweb.org/>.

To vote you must first login using your unique username and password. You can review the candidates' bio-sketches via the "Electoral Candidates" link on the homepage, or during the actual voting process. To vote just click on the "Voting Form" link at the top right.

Please note that our e-ballot system allows only one vote per member, and your anonymity is guaranteed.

If you encounter any problems, or do not have internet access, please contact techsupport@isbweb.org.

Thank you for your participation in this important aspect of the Society's affairs.

Kind regards,

Graeme
(on behalf of ISB Past-President, Dr Mary Rodgers)

ISB sponsor news

Motion Analysis has promised to co-sponsor the "Promising Young Scientist Award" (\$2,500) at the upcoming ISB2007 conference.



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New ISB poster

Below, see the result of an initiative from our student representative Cheryl Metcalf. This is a poster to make students aware of the existence of ISB. If you would like some posters in your lab, send Cheryl an e-mail (cdm1@soton.ac.uk)



International Society of Biomechanics

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10th ISB Conference—Cleveland, Ohio

Technical Groups

- *Computer Simulation*
- *Footwear Biomechanics*
- *3D Analysis of Human Movement*
- *International Shoulder Group*



Join now! See website for details!

The International Society of Biomechanics promotes the study of the biomechanics of movement with special emphasis on human beings; encouraging international contacts among scientists in this field, promoting knowledge of biomechanics on an international level, and cooperating with related organizations

<http://isbweb.org>

Obituary - Feb. 1, 2007



PATLA, Dr. Aftabhusain - At St. Mary's General Hospital, on Monday, January 29, 2007, with family and friends by his side, Dr. Aftab Patla, aged 54 years. Dr. Patla was an accomplished Professor in the Department of Kinesiology at the University of Waterloo. He arrived at the University of Waterloo in 1982 and devoted research and teaching career to the study of health, aging and human movement. He earned a B Tech in Electrical Engineering from the Indian Institute of Technology (1975) and a PhD in Kinesiology from Simon Fraser University (1982). During his academic career he served as Executive Editor of the Journal of Motor Behaviour, Associate Editor of the journal Gait and Posture, President of the Canadian Society of Biomechanics and the International Society of Posture and Gait Research and on the Grant Selection Committees of NSERC and MRC. He traveled extensively around the world to talk about his research and was a Visiting Scholar at the University of Otago, NZ and Pennsylvania State University. His passion for and creativity in research will live on through the many students he mentored including 22 MSc, 25 PhD and 4 postdoctoral fellows. Loving and devoted husband to Guilda Lavoie Patla, dear brother to Shabbir and his wife Zohra and their children Tasneem and Alisia and Duraiya and her husband Salim Pacha and their children Nurtuza and Akil, all of Pune, India. Predeceased by his parents Esoof and Rubab Patla. A memorial service will be held in Dr. Patla's memory from the Ratz-Bechtel Funeral Home Chapel, 621 King St. W., Kitchener on Saturday at 1 p.m. with Chaplain Paul Ellingham officiating. Donations to the UW Well-Fit may be made as expressions of sympathy through the funeral home 519-745-9495 or at www.ratzbechtelfuneralhome.com Reception to follow in the Ratz-Bechtel Family Centre.

Editors note

In this issue be aware of the important message from our Treasurer regarding voting for ISB council. And speaking about our Treasurer, enjoy the description of one of ISB's most devoted members. If you come across a good story about Graeme or other well-known members of ISB, please send them to the ISB Newsletter and share them with all the members. That's how we create a history in the society.

Karen Sjøgaard, Newsletter editor

ISB Membership news - new members

Dr. Noor Azuan Abu Osman
Department of Biomedical Engineering,
Faculty of Engineering, University of
Malaya
Kuala Lumpur
Wilayah Persekutuan 50603
Malaysia

Lars Andersen
Lersø Parkalle 105
Copenhagen 2100
Denmark

Ms. Amy Arthur
Synthes-Spine
2021 Spruce St. #2F
Philadelphia
PA 19103
United States

Janie Astephen
1663 Brunswick St. - Apt. 207
Halifax
Nova Scotia B3J 3Z6
Canada

George Beneck
10846 Walnut St
Los Alamitos
CA 90720
United States

Kurt Beschoner
984 Greenfield Ave
Pittsburgh
15217
United States

Dimitra Blana
955 W. St. Clair Ave Apt. 1606
Cleveland
44113
United States

Rebecca Bolt
One Bowerman Drive
Beaverton
97005
United States

Matthew Brodie
4-15 Claremont Grove
Mt Vic, Wellington
New Zealand

Travis Burgers
3549 Heather Crest
Madison
53705
United States

pierfrancesco celada
mundella terrace 29
newcastle
england NE6 5hX
United Kingdom

Ryan Chang
30 Eastman Lane, Totman 110
Amherst, MA 1003
United States

Miss Duanduan Chen
Engineering Science
University of Oxford
Wadham College
Oxford OX1 3PN
United Kingdom

Yeow Chen Hua
Blk 244, Yishun Ring Road, #02-1135
Singapore 760244
Singapore

Mr. Jerry Clark II
Athletic Department
Eastern Michigan University
225 Victorian Lane
Belleville, MI 48111
United States

Matt Clerc
191 Spring St.
Lexington
2420
United States

Mr. Nelson Cortes
Human Movement Science
Old Dominion University
426 Delaware Ave, APT# 124
Norfolk
Virginia 23508
United States

Steven Cusick
191 Spring Street
Lexington
1540
United States

Joan Deffeyes
Psychobiology
University of Nebraska at Omaha
316 North 48th Street
Omaha
Nebraska 68132
United States

Romain DENIS
10 Bridge road
Uxbridge
UB8 2QN
United Kingdom

Irene Di Giulio
3, Chapel Street
Crewe
Cheshire CW2 7DQ
United Kingdom

Brandie Dunn
Box 394
Coalhurst
TOL 0V0
Canada

Mr. Anirban Dutta
Biomedical Engineering
Case Western Reserve University
2235 Overlook Road
Cleveland Heights
OH 44106
United States

William Brent Edwards
232 South Walnut Ave #7
Ames
IA 50010
United States

Prof. Anders Eriksson
Mechanics
KTH Engineering Sciences
Osquars backe 18
Stockholm
SE-10044
Sweden

Stephen Ferguson
University of Bern, Stauffacherstrasse 78
Bern
CH-3014
Switzerland

abbie Ferris
117 S. Avenue 64 # 211
Los Angeles
Ca 90042
United States

Prof. John Fisher
School of Mechanical Engineering
University of Leeds
Woodhouse Lane
Leeds
West Yorkshire LS2 9JT
United Kingdom

Aviv Fried
104, 1040 15 Ave SW
Calgary
T2R 0S6
Canada

David Frost
50 Emerald Way
Edgewater
6027
Australia

Mr. Craig Goergen
Bioengineering
Stanford University
121 Campus Drive, Apt. 1306A
Stanford, CA 94305
United States

Janet (Jing) Han
Systems Design Engineering
University of Waterloo
3379 Erin Center Blvd.
Mississauga
Ontario L5M 8C4
Canada

Yasuhiko Hatanaka
1001-1 Kishioka
Suzuka
Mie 510-0293
Japan

Dustin Hatfield
Kinesiology and Health Promotion
University of Kentucky
183 Transcript Ave #9
Lexington
Kentucky 40508
United States

Miss Rui Ping Hoo
Materials Science and Engineering
University of New South Wales, Sydney
9/104 Barker Street,
Sydney
New South Wales 2032
Australia

Wei-Li Hsu
R301 Mckinly Lab
Newark
19716
United States

Bret Hudson
388 Manchester St. #3
Manchester, NH 3103
United States

Dr. Paul Ivancic
Department of Orthopaedics &
Rehabilitation
Yale University School of Medicine
P.O. Box 208071
New Haven, CT 06520-8071
United States

Mr. Onisoru Justin
Continuum Mechanics
Institute of Solid Mechanics of
Romanian Academy
Constantin Mille 15
Bucharest
10141
Romania

Dr. Lyes KADEM
Mechanical and Industrial Engineering
Concordia University
Department of Mechanical and Industrial
Engineering
Montreal
Quebec H3G 2W1
Canada

Pei-Chun Kao
Dept of Movement Science
University of Michigan, Ann Arbor
1687 Broadway St, Apt#202
Ann Arbor
MI 48105
United States

Sohit Karol
Department of Kinesiology, University of
Maryland
College Park
20742
United States

Amin Kashanchi
Mechanical Engineering Department,
Eastern Mediterranean University
Famagusta Via Mersin-10
Mersin 9510
Turkey

LINDA KENT
2004 LONGVIEW COURT
PENNSBURG
PA 18073
United States

Megan Killian
215 South 5th
Bozeman
59715
United States

Bart Koopman
P.O. Box 217
Enschede
ov 7500 AE
Netherlands

Jayma Lallathin
Biomechanics
Ball State University
1016 W. Bethel Ave
Muncie
IN 47303
United States

Miss Chien-Ju Lin
412 West Redwood street
Baltimore
MD 21201
United States

jonathan loh
4-20 manseau av
montreal
PQ H2V 4T1
Canada

Dr. Michael MacConaill
174 rue Jolicoeur
Gatineau
QC J8Z 1C9
Canada

Mr. Brian Madden
Biomechanical
Trinity College Dublin
2 College Green,
Dublin
15
Ireland

Roza Mahmoodian
1736 Earlington Rd.
Havertown
PA 19083
United States

milad masjedi
5, parish view, 19 pudding chare
Newcastle upon Tyne
Northumberland NE1 1UD
United Kingdom

Mr. John McCamley
SHRI-CORE Orthopedic Labs
1735 E Gaylon Dr
Tempe
Arizona 85282
United States

D Travis McMaster
5512 St. Johns Sd.
Stouffville
Ontario L4A 7X4
Canada

Kane Middleton
15A Wardle Road
Perth
6162
Australia

Mrs. Beth Moses
Accident Research & Biomechanics, Inc
27811 Avenue Hopkins, Suite #1
Valencia
CA 91355
United States

Mr. Mukul Mukherjee
Physical Therapy and Rehabilitation
Sciences
University of Kansas Medical Center
4111, Adams Street, # 307
Kansas City
KS 66103
United States

Mr. Joseph Munaretto
Biomedical Engineering
University of Southern California
1317 Alvarado Terrace
Los Angeles
CA 90006
United States

Dr. Amanat Negin
Orthopaedic Research and
Biotechnology
The Children's Hospital at Westmead
Research Building
Sydney, NSW 2145
Australia

Alison Novak
Queen's University
Kingston
Ontario K7L 3N6
Canada

Dr. Makoto Ohta
Biofluid Control Lab
Institute of Fluid Science, Tohoku
University
2-1-1 Katahira Aoba-ku
Sendai
Miyagi 980-8577
Japan

Maarten Oosterlinck
Salisbury Lane 133
Merelbeke
Oost-Vlaanderen B-9820
Belgium

Rajesh Paranjape
1049 west 49th st apt#310
Norfolk
VA 23508
United States

prakriti parijat
305 huntclub road, apt 6600C
blacksburg
VA 24060
United States

Mr. Anargyros Politis
Chemical Engineering
National Technical University of Athens
5 Nektariou Str., Kipseli
Athens
Attiki 11251
Greece

Mr. Douglas Powell
Exercise, Sport & Leisure Studies
The University of Tennessee
322 HPER
Knoxville
TN 37996
United States

Mr. Norman Reeves
Biomedical Engineering
Yale University
857 Orange St
New Haven
CT 6511
United States

Shirley Rietdyk
800 W. Stadium Ave.
West Lafayette
IN 47907-2046
United States

Pedro Rodrigues
14 Granby Heights
Granby
1033
United States

Prof. Jiro Sakamoto
Graduate School of Natural Science and
Technology
Kanazawa University
Kakuma-machi
Kanazawa
Ishikawa 920-1192
Japan

Mr. Jerome SAURET
Faculty of health and social care
University of Gloucestershire
22 Saint Paul Street North
cheltenham
Gloucestershire GL50 4AQ
United Kingdom

Ann Simon
Biomedical Engineering
University of Michigan
1206A CCRB
Ann Arbor
MI 48109-2214
United States

Mr. Olumide Sofuwa
Rehabilitation Research
School of Health Professions and
Rehabilitation Sciences
University of Southampton
Mailpoint 886, Level E, Southampton
General Hospital
Southampton
England SO16 6YD
United Kingdom

Leonidas Spyrou
Mechanical & Industrial Engineering
University of Thessaly
Pedion Areos
Volos
Thessaly 38334
Greece

Prof. Shigeru Tadano
Division of Human Mechanical Systems
and Design
Graduate School of Engineering,
Hokkaido University
Kita-ku, N-13, W-8
Sapporo 060-8628
Japan

guan tan
205 washington ave #5
ames
50010
United States

Luci Teixeira-Salmela
Rua Capri, 480 - Bandeirantes
Belo Horizonte
Minas Gerais 31340-440
Brazil

Dominic Thewlis
Department of Allied Health Professions
University of Central Lancashire
apt 64, centenary Mill
Preston
Lancashire PR1 5JQ
United Kingdom

Florian Ullrich
Eulachstrasse 22
Winterthur
ZH 8408
Switzerland

Stefan van Drongelen
Guido A Zach Strasse 8
Nottwil
6207
Switzerland

Serge VAN SINT JAN
Lennik Street 808 (CP 619)
Brussel
Brussel 1070
Belgium

Prof. Nicholas Vlachos
Mechanical Engineering
University of Thessaly
Athens Avenue
Volos
383 34
Greece

Dr. Samuel Ward
Radiology
University of California San Diego
6211 Calle Mariselda #302
San Diego
CA 92124
United States

Mr. Joshua Weinhandl
Biomechanics
Ball State University
2700 Silvertree Ln.
Muncie
IN 47304
United States

Miss Julie Woerner
Flinders University of South Australia
1 College Road, PO Box 241
Berrimah
Northern Territory 828
Australia

Rachel Wright
33 Rona Gardens
Worcester
WR5 3UH
United Kingdom

Tomoyuki Yamamoto
1-1 Asahidai
Nomi
Ishikawa 923-1292
Japan

Feng Yang
1919 W. Taylor St. MC898
Chicago
60612
United States

Mrs. Yu Yao
Mechanical Engineering
MIT
77 Mass Ave, 3-237
Cambridge
MA 2139
United States

Bing Yu
1315 Autumn Ridge Dr
Durham
NC 27712
United States

Dr. Karl Zabjek
Department of Physical Therapy
University of Toronto
160-500
Toronto
Ontario M5G 1V7
Canada

Mr. ZHENG-CHENG ZHONG
Mechanical Engineering
National Chiao Tung University
1001 Ta Hsueh Road
Hsinchu
Taiwan 41241
Taiwan



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