

# March 2016



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# List of new members

By Ed Chadwick | March 2016

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# International Shoulder Group update

By Ed Chadwick | March 2016

The 11th biennial [Conference of the International Shoulder Group](#) will be held in Winterthur, Switzerland, on Thu 14th - Sat 16th July 2016. It is organized by the IMES Institute for Mechanical Systems at the ZHAW Zurich University of Applied Sciences. The [programme is now online](#) (pdf).

Highlights include:

- An OpenSim Workshop that will introduce a new shoulder model with an improved description of the scapulothoracic and glenohumeral joints. The workshop will include a brief overview of the OpenSim software, and hands-on examples using the new model to investigate shoulder mobility-related dysfunctions.
- Keynote speeches from PD Dr Matthias Zumstein, Head of Shoulder, Elbow and Orthopaedic Sports Medicine at the University Hospital of Berne, and Prof. Dr. Tobias Nef, Head of the Gerontechnology & Rehabilitation ARTORG Centre for Biomedical Engineering Research in Berne.
- 33 oral and 10 poster presentations, with presenters coming from 12 different countries
- An optional one-day trip to the Swiss Alps on the day after the conference.

Please register by Friday May 13th for the reduced rate, and if you would like to attend the Opensim Workshop, remember to tick the box on the registration form.

# The International Affiliate Development Grant Program (IADG)

By Ed Chadwick | March 2016

This ISB grant is offered to student biomechanists from low income or restricted currency countries to enable them to spend time in an approved, established biomechanics laboratory or to attend a relevant, approved training course. This travel grant is part of the objective of the ISB to benefit members by providing them with opportunities to leverage the career, learn new things, and work to establish networks. However, the IADG has been underused. This is a conclusion based in the number of student applications. ISB would be happy to see more and more students interested in the grants, as this is the purpose of the program. Students, please be aware that you all can apply for grants and take advantage of your membership to apply. Professors, please consider showing to your students the possibilities and motivate them to apply. Especially to the EDC member, I would like to say you have all the chances to be awarded, but it cannot be possible if you do not apply for the grants. The grant amount in USD 2,000 that you can use to pay flight or bus tickets, accommodation and travel costs during your visit. Please check the student grants section in the ISB website (<https://isbweb.org/students/student-grants>), and if you

have any questions, just send an e-mail to the persons indicated in that page.

## **Fellows Update: Jill McNitt-Gray**

By Ed Chadwick | March 2016

Jill L McNitt-Gray was one of the inaugural fellows of the ISB. Jill is a Professor in the Departments of Biological Sciences, and Biomedical Engineering at the University of Southern California (USC). She is also the Director of the USC Biomechanics Research Laboratory and was the founding director of a cross-cutting interdisciplinary graduate program in biological sciences at USC.

In 1980, she earned her undergraduate degree in mathematics and statistics with a certification in coaching from Miami University in Oxford, Ohio. After working in load research and load management for the American Electric Power Service Corporation, she returned to graduate school at the University of North Carolina, Chapel Hill. In 1985, she earned her master's degree in biomechanics at the University of North Carolina at Chapel Hill and was the assistant coach of the Carolina Women's Gymnastics team. Dr. McNitt-Gray received her doctoral degree in biomechanics from Penn State in 1989.

Jill has served on the Editorial Board of the International Journal of Sports Biomechanics and the Journal of Applied Biomechanics and as an ad hoc reviewer on study sections for National Institutes of Health, National Science Foundation, Centers for Disease Control, and various governing bodies of sport. She served on the American Society of Biomechanics (ASB) membership committee from 1989-92, and then as a member of the education committee. Dr. McNitt-Gray served on the Executive Board as Education Chair (1993-95), Program Chair (2002), and as President (2009-2012). In recognition of her work for the ASB and accomplishments in biomechanics Jill is a fellow of the ASB.

Jill has received the USC Mellon Culture of Mentoring Award for her work with the Women in Science and Engineering program (WiSE) and a USC Mellon Mentoring award for her mentoring of undergraduate students. The Medical Commission of the International Olympic Committee recognized her research team's work in the physical sciences with the Prince Alexandre de Merode Award. Dr. McNitt-Gray is also actively involved in translation of science into the practice and outreach programs that provide informal educational experiences in Science, Technology, Engineering and Mathematics fields. Her innovative approaches to research and education have been recognized by the USC Center for Excellence in Teaching and funded by the National Science Foundation. She has served as a biomechanist for the International Olympic Committee, the US Olympic Committee, multiple National Governing Bodies of Sport, and the National Collegiate Athletic Association.

Jill interdisciplinary research focuses on the neuromuscular control and dynamics of human movements and aims to identify risk factors and develop effective methods for performance enhancement for individuals with various ability levels (clinical populations as well as elite athletes). She uses both experimental and dynamic modeling approaches to test research hypotheses specific to control priorities during physically-demanding well-practiced tasks.

From 2001 to 2007 Jill served as a member on the ISB Executive Council, where she was the ISB Liaison to Affiliated and Economically Developing Societies.

# Students' Corner

By Ed Chadwick | March 2016

## International Travel Grant

First and foremost, I'd like to begin by announcing that we have another upcoming student grant deadline! As student members, you are all welcome to apply for the [International Travel Grant](#) (ITG) Program; an exciting initiative that offers recipients up to \$US2500 for travel related to biomechanics research. The primary goal of the ITG is to create opportunities for students to travel abroad to experience science in other countries and cultures, and to build up international collaborations. The next round of ITG applications are due May 30, 2016 which gives you plenty of time to work on a proposal. If you need some inspiration, you can view travel reports from previous recipients [here](#). And if you have any questions, as always, please feel free to contact me at [isb.studentrepresentative@gmail.com](mailto:isb.studentrepresentative@gmail.com). Good luck to all who apply!

## Affiliated Societies Student Travel Grants

A few of our affiliated societies offer travel grants you may be eligible for. The societies with upcoming deadlines include:

1. [International Society of Biomechanics in Sports](#), Deadline = April 30, 2016; Value = up to €500.
2. [Canadian Society for Biomechanics](#), Deadline = May 1, 2016; Value = up to \$CAD300.
3. [European Society of Biomechanics](#), Deadline = May 9, 2016; Value = €400.
4. [German Society for Biomechanics](#), Deadline = March 31 2016; Value = up to €500.

## Additional Travel Grant Opportunities

In 2016, Delsys will also offer 25 [graduate student travel grants](#) to support students travelling to the American College of Sports Medicine, the American Society of Biomechanics, the European College of Sport Science or the Society for Neuroscience meetings. Grants are valued at \$USD400 per student and applications are due April 29.

The Force and Motion Foundation also offer [quarterly academic travel scholarships](#) for scientific posters and podium presentation abstracts. Up to ten \$500USD travel scholarships are awarded by the foundation.

## Advice to Students

Our 'Advice to Students' YouTube playlist is growing! This quarter, we have a short clip from Dr. Andrea Hemmerich from Queen's University who encourages us to pursue our passion and take time to listen to those around us. The video can be viewed [here](#). Thank you to Dr. Hemmerich for her contribution. She joins Dr. Walter Herzog and Dr. Joseph Hamill who together, provide a broad range of inspiring advice. Stay tuned for Dr. Brian Davis (The University of Akron) whose video will be released with the next edition of ISB Now.

## Embracing Failures in Science

*"Success is advancing from failure to failure without losing enthusiasm".* I recently came across a

*Naturejobs* podcast ([Careers in science: celebrate the failures](#)) which discusses the inevitable presence of failure in science and its impact on young researchers, making reference to the 'pressure to publish'. What defines a failure in science, and how can we embrace our failures to learn from them? Take a listen!

## **Social Media**

Stay in the loop - 'like' the [ISB Facebook page](#), join our [Student Members Facebook Group](#) and [LinkedIn Group](#) and follow us on [Twitter](#) for ISB related updates.

As always, I'd love to hear any feedback or suggestions you may have and am always happy to answer your questions, so please feel free to get in touch.

# **ISB Grant Reports**

By Ed Chadwick | March 2016

Valencia - Auckland (September-December 2015)

The ISB International Travel Grant allowed me to visit the SPRINZ Centre (Auckland University of Technology) in New Zealand for 3 months. It has been an amazing experience, not only from a professional point of view, but also from a personal one.

During these months, I had the opportunity to participate in a number of different projects, ranging from anthropometric studies of the Auckland City Football Club to laboratory tests using some of the most novel equipment used in biomechanics studies. Within these studies, I learnt how to use the equipment of their laboratory, in particular their integrated system that included the Vicon Motion Capture System with a treadmill with integrated force plates and inertial measurement units. This methodology allowed us to measure a great number of biomechanical parameters without barely placing any equipment on participants.

Moreover, it also surprised me in a very positive way how the centre is organised. With the injury clinic downstairs, some central offices for a number of NZ sports which allows for quick communication with the given field, and the high performance centre located on the top floor, this organization enabled sport scientist of different disciplines (biomechanics, nutrition, health, physiotherapy, strength and conditioning, etc.) to work directly with elite athletes and organise meetings to design research projects that are of special interest for the athletes and which can be specifically applied to the field.

Last but not least, the people working there are amazing as well. It is very common to see teams of different areas of knowledge work together, and especially for the international students and visitors, everyone offers their help and make you feel welcome and comfortable in the new research environment. In this sense, my supervisors Patria Hume and Kelly Sheerin deserve a special thank you for all their help and support, not only before arriving but also throughout and after my visit to their lab. I would also like to thank the ISB organization for giving me the opportunity to live this wonderful experience abroad and put together these two labs, GIBD in Valencia and SPRINZ in Auckland, and sow what could be the first step of an international collaboration between the two research facilities.

Angel Lucas.

# President's Blog, March 2016

By Ed Chadwick | March 2016

Here in the southern hemisphere the daylight hours are becoming noticeably shorter and the nights cooler. For our northern hemisphere members Spring is gathering momentum. Whether you are live in the south or north, this time of the year usually means notifications of abstracts being accepted for upcoming conferences, registrations, planning of travel and accommodations. This year there are numerous biomechanics conferences and meetings and ISB will have a significant presence at many of them.

The ISB executive council will hold two days of meetings just prior to the American Society of Biomechanics (ASB) conference in Raleigh, North Carolina (August 2-5). ASB is an affiliate society of ISB, which affords them the opportunity of having an ISB sponsored keynote speaker at their meeting. As I mentored in my last newsletter, [Professor Tibor Hortobagyi](#) has accepted the invitation to be the ISB keynote and I know many of us are looking forward to hearing his address.

The Canadian Society of Biomechanics (CSB) is also an affiliate society of ISB and this year ISB has agreed to sponsor a keynote speaker for their national meeting, to be held at McMaster University in Hamilton, Ontario (July 19-22). A relatively recent Past President of our Society, [Professor Julie Steele](#), will be giving that address.

Last but by no means least, ISB will have a significant presence at this year's International Society of Electrophysiological Kinesiology (ISEK) meeting in Chicago (July 5-8). [Professor Scott Delp](#) will give an ISB sponsored keynote and there will be a combined ISEK-ISB symposium during the conference. The ISB Motor Control Working Group will also be holding a symposium in the afternoon prior to the Opening Reception.

I am also pleased to say that many of our ISB councillors and members will be attending other northern hemisphere meetings such as the European Society of Biomechanics Conference, The American College of Sports Medicine Conference, The European College of Sports Science, and the list goes on...

I'm also pleased to be able to tell you that a significant amount of planning has already taken place for the XXVI ISB congress to be held in Brisbane between the 23rd and 27th of July, 2017. Hopefully you are all receiving the ISB2017 e-zine, have bookmarked the [IBS2017 website](#) and downloaded the ISB2017 App. Key dates have been posted and an outline of the program will be available very shortly. For those attending this year's ISEK or ASB meetings, make sure you make a note in your diary to attend the ISB2017 hosted social events. A free of charge drinks and snacks event will be held during the ISEK conference (right after the ISEK-ISB symposium) and a free of charge Aussie BBQ Night (North Carolina style) will be held during the ASB conference on the Wednesday night.

To close my column on a more academic note, I thought you might like to watch a Ted Talk by Professor Auke Ijspeert from the Biorobotics laboratory at EPFL. Professor Ijspeert talks about his robot that runs and swims like a salamander. I think this is a nice example of how the fields of biomechanics and motor control can intersect to help understand complex problems. I hope you enjoy it.

[https://www.ted.com/talks/auke\\_ijspeert\\_a\\_robot\\_that\\_runs\\_and\\_swims\\_like\\_a\\_salamander](https://www.ted.com/talks/auke_ijspeert_a_robot_that_runs_and_swims_like_a_salamander)