

September 2015

ISB *Now*



**September
2015**

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President's Blog, September 2015

By Ed Chadwick | September 2015

It's almost three months since many of us met at The XXV Congress of the International Society of Biomechanics in Glasgow, Scotland. The Congress marked a 25-year milestone in the history of ISB, which dates back to its first conference in Zurich in 1967. This year's meeting was in the capable hands of Professor Philip Rowe and his colleagues from the Department of Biomedical Engineering at the University of Strathclyde. This was the first time that an ISB Congress was held in the UK and due to its success, I'm certain that it will not take another 48 years for it to return to the UK.

There were many conference highlights, with 'special sessions' like the John Paul session on the Hip, the ISEK session, the EDC session and sessions on Rehabilitation, Mechanobiology and Prosthetics, reflecting the breadth of biomechanics covered at the meeting. It was also pleasing to see the high standard of research in our award sessions, which included the David Winter Young Investigator, Emerging Scientist, Clinical Biomechanics and Promising Young Scientist awards. And of course large audiences were drawn to the prestigious Muybridge Award lecture given by Professor Kai-Nan An and the Wartenweiler Memorial lecture by Professor Aurelio Capozzo.

As at all ISB congresses, there was a significant changing of the guard at the General Assembly. As incoming President of ISB I would like to thank the outgoing Past-President (Ton van den Bogert) for his help and guidance during my two years as President Elect. Ton served as an ISB council member for 6 years before taking on another 6 years as a member of the ISB Presidents Committee. Similarly, our new Past-President, John Challis, has successfully guided the society through the last two years and I will undoubtedly continue to value his support through my presidency. Also stepping down from the Executive Council after significant periods of service were David Lloyd, Genevieve Dumas, Toni Arndt, Marco Aurélio Vaz, Scott McLean and Kelsey Collins. Andrea Hemmerich also stepped down from her appointed role of working with our EDC activities. Incoming Executive Council members were announced and welcomed at the General Assembly and included Joe Hamill, Felipe Carpes, Glen Lichtwark, Taija Finni, Thor Bessier, Dan Benoit and Kirsty McDonald. Rob Herbert was appointed as the societies' Secretary-General. Full details of the ISB Executive Council and their respective portfolios can be found on the ISB website at the link ([ISB- Executive Council](#)).

The XXV Congress also presented us with the opportunity to induct our first round of ISB fellows. I would like to thank Julie Steele for initiating the idea and spending time with our Past-President (John Challis) developing criteria to recognise members with distinguished achievements in biomechanics and service to the society. Our first class of ISB Fellows are Maarten Bobbert, Ton van den Bogert, Brian David, Veronique Feipel, Walter Herzog, Jill Mc-Nitt-Gray, Peter Milburn, Mary Rogers, Darren Stefanyshyn and Ron Zernike. Photos of the Fellows can be found on the ISB website at ([ISB Fellows](#)). The Fellows will shortly be appointing a Censor to review the fellowship nomination criteria that will be placed on the ISB website.



I am pleased to say that the new ISB Council is strongly committed to continue the great work achieved

by our previous councils. Our membership numbers remain strong, however reduced revenue from our recent congresses does require us to tighten our belts a little. We will endeavour to continue our support for all our activities, however student grants, EDC activities, affiliate society and technical groups may receive a little less funding over the next two years than in previous years.

On a positive note, the post congress survey conducted by the organisers of the Glasgow conference showed that the vast majority of responders were very satisfied with the conference, considering it a very good location, a high quality venue, very well organised with excellent sessions. More than 80% of the respondents indicated that they would be likely to attend future ISB congresses and more than 50% said that they would likely travel to the southern hemisphere to attend the next XXVI ISB Congress in 2017.

With that in mind I would like to close by letting you know that the organisers of the next ISB Congress are well underway with their preparations and are planning an event that you shouldn't miss. Information and dates about the XXVI Congress can be found on the Congress Website ([ISB 2017](#)). Don't forget to download the ISB 2017 Congress App from the Congress Website and enter the Koala Challenge for a chance to win five night's accommodation and a free conference registration. The organising committee has already received photos of ISB Koalas in extraordinary locations but, there is still plenty of time for you and your koala to enter.

Students' Corner

By Ed Chadwick | September 2015

I'd like to begin by acknowledging the great work of outgoing Student Representative, Kelsey Collins. A big thanks to Kelsey for all she has done throughout her two year term, including her efforts in organising a really engaging program of student events at the XXV Congress of the ISB in Glasgow.

Glasgow 2015

The 'Outreach' and 'Cool Under Pressure' sessions occurred simultaneously on Monday morning, followed by the very popular 'Mentoring Session' over lunch. Later that afternoon we headed to Aberfoyle for the 'Student Excursion'. Fortunately, Scotland provided some beautiful weather as we made our way around a scenic tree top adventure trail. The massive zip lines were a definite highlight!



ISB Student member in the treetops in Scotland!

On the second day of the Congress we were treated to a 'Mock Academic Interview', and an informal discussion with ISB Student Awards Officer, Alberto Leardini, regarding Student Grant applications. On Thursday, the 'Inaugural Women in Science Lunch' was a great chance to celebrate female Biomechanists and their contribution to the field. Thank you to all who volunteered their time to present at the various events.

Advice to Students

During the Congress, I asked eight delegates for a small piece of advice I could share with the ISB student community. I'll begin by apologising for the video quality - the clips were filmed around the Conference venue so there's a bit of background noise...and I definitely don't have the steadiest of hands!

However, I was personally really inspired after speaking with each contributor. Everyone brought their own unique flavour to the project, and topics ranged from conference networking, to conducting research, to having a fulfilling work-life balance.

Our first video features Dr. Walter Herzog from the University of Calgary, and can be found [here](#).

I hope you'll all get as much out of these short clips as I did. I will upload one with each new issue of ISB Now. If you have any comments, thoughts or feedback, we'd love to generate some discussion so feel free to comment the video or post on the ISB Student Members Facebook Group.

Keep your eyes peeled for the next video from Dr. Joseph Hamill, University of Massachusetts Amherst.

Thank you so much to all who contributed.



Professor Joe Hamill giving advice during a student mentoring session.

Student Grants Update

After feedback from our Student Grants discussion in Glasgow, the International Travel Grant (ITG) and Congress Travel Grant (CTG) guidelines have been expanded. The updated descriptions will appear on our website (www.isbweb.org) shortly, with the next round of applications due in December 2015.

Top Ten from Mary!

Words of wisdom on getting a good start in research from [the interview with Mary Rodgers](#):

1. "My path has been a long winding road - be open to diverse opportunities in research." It's OK to participate in a variety of research projects and research environments to figure out your niche.
2. Be ready to put yourself out there and develop an idea of what to do and where you want to go - this can [and likely will] change!
3. Everyone has their own path - find good collaborators and find good mentors *at every stage of your career!*
4. Mentors can be professional mentors or personal mentors! Sometimes identifying someone with a strong work-life balance can be an incredibly valuable asset to your training.
5. When looking for mentors, think **outside your lab**.
6. Good mentorship relationships manifest when the mentee expresses (1) her **goals**, (2) has a **direction**, and (3) her **vision** is aligned with the work of the mentor.
7. Mentorship can result **from different people in different ways**. Maybe someone can't meet weekly, but they might be willing to read over your grants, or teach you a new method.
8. Some grants require a mentorship plan - take advantage of this commitment from your mentors and execute this plan (see below)! This may also be used as a framework to create effective mentorship relationships.

9. If mentorship or collaborations don't work out, learn from them. Take these experiences forward and help them guide your future guide future collaborative and mentorship relationships.
10. Take advantage of leadership roles in Biomechanics Societies.

Need tips on creating a mentor plan? Some Advice from Mary:

Include:

1. Description of mentors role in detail - what exactly will they provide?
2. For grants, a letter of support - this is an opportunity for the mentor to demonstrate their commitment to the mentee
3. Describe what the expectations are for communication. What is the frequency of communication? Where and when will meetings be conducted?
4. Specific areas of development for mentee - what can the mentor teach the mentee? How will this relationship grow as the mentee develops?
5. Specific training goals - grants, learning new methods, coaching to leadership positions, teaching skills to be an effective mentor, etc.

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.

If you have any feedback, comments, suggestions or questions please feel free to contact me at isb.studentrepresentative@gmail.com.

Kind regards,

Kirsty McDonald

isb.studentrepresentative@gmail.com



ISB2015 Award Winners

By Ed Chadwick | September 2015

We are delighted to announce the following awards, that were presented at ISB2015.

David Winter Young Investigator Award 2015 - Poster

Robert Eberle

University of Innsbruck

Dept. of sport science

Innsbruck, Austria

“ How to generate injury prone to situations for non-contact ACL injuries”

David Winter Young Investigator Award 2015 - Podium

Kelly A. Larkin-Kaiser

University of Calgary

Dept. of Kinesiology

Calgary, Canada

“Larger isoforms of titin are associated with increased sarcomere length and severity of hip displacement in CP”

Clinical Biomechanics Award 2015

Andrew Tan

Northwestern University

Dept. of Neuroscience

USA

Tan A. et. al: Cortical Modulation of TMS included across joint kinetic synergies in the post stroke lower limb

Promising Scientists Award 2015 Ross Miller, PhD

University of Maryland

Dept. of Kinesiology and Faculty of Neuroscience

USA

Emerging Scientist Award 2015

Shota Haigo

Kyoto University of Japan

Laboratory of Neuroscience

Kyoto, Japan

Announcement of ISB Fellows

By Ed Chadwick | September 2015

At the XXV Congress of the International Society of Biomechanics in Glasgow we appointed our inaugural class of ISB Fellows. Julie Steele in a previous issue of ISB Now outlined the selection procedure for these fellows, and we are grateful to Julie as she served as the Censor of the Fellows for this initial round of appointments. These fellows were announced at the ISB General Assembly. The anticipation is that these fellows will continue to contribute to the various functions of the society.

The inaugural class pictured below comprised: Maarten Bobbert (VU University Amsterdam), Ton van den Bogert (Cleveland State University), Brian Davis (University of Akron), Vernonique Feipel (Université Libre de Bruxelles), Walter Herzog (University of Calgary), Jill McNitt-Gray (University of Southern California), Peter Milburn (Griffith University), Mary Rodgers (University of Maryland), Darren Stefanyshyn (University of Calgary), and Ron Zernicke (University of Michigan).



The inaugural class of ISB Fellows, outside of the Scottish Exhibition and Conference Centre in Glasgow.

Congratulations to all of them.

John Challis

Penn State University

jhc10@psu.edu

Second ISB Symposium on Motor Control in Biomechanics at ISB2015

By Ed Chadwick | September 2015



We would like to thank all attendees of the 2nd ISB Symposium on Motor Control in Biomechanics for a great event. The Symposium was held on Sunday July 12th 2015 on the opening day of the XXV Congress of the International Society of Biomechanics (ISB) in Glasgow, UK.

The Initiative, organized by prof. Carlo J. De Luca and the [ISB Working Group in Motor Control](#), featured a Keynote Lecture by Professor Paavo Komi from the University of Jyväskylä (Finland) and the following internationally distinguished researchers:

Dr. Aurelio Cappozzo (University of Rome "Foro Italico", Italy)

Dr. Joseph McIntyre (Tecnalia Research and Innovation - Health Division, Spain)

Dr. Katherine Steele (University of Washington, USA)

Dr. Benno Nigg (University of Calgary, Canada)

Dr. Vinzenz Von Tscharner (University of Calgary, Canada)

Dr. Patrick van der Smagt (Technische Universität München, Germany)

Dr. Carlo J. De Luca (Boston University, USA)

Dr. Marco Knaflitz (Politecnico di Torino, Italy)

Dr. Madeleine Lowery (University College Dublin, Ireland)

Dr. Maria Cristina Bisi (Università di Bologna, Italy)

See the event [flyer](#) for details.

Thank you all for participating!

Symposium Organizers:

Carlo J. De Luca, Professor Emeritus, Boston University (USA)

Philip Rowe, Professor, University of Strathclyde (UK)

Paola Contessa, Research Scientist, Delsys Inc. (USA)

Motor Control Seed Group accepted as Working Group

The Motor Control Group was established as a Seed Group of the International Society of Biomechanics (ISB) at the XXIV Congress of ISB in Natal (Brazil) in 2013.

We are very pleased to announce that ISB has approved the Motor Control Group to become a Working Group of ISB (<https://isbweb.org/about-us/isb-tech-groups>) at the past XXV Congress of ISB in Glasgow, 2015.

The affiliation recognizes the interest of the Biomechanics community in Motor Control and aims at strengthening the link between the two fields.

List of new members, September 2015

By Ed Chadwick | September 2015

[table id=28 /]

ISB Student Travel Grant Reports

By Ed Chadwick | September 2015

Hannah Gustafson

University of British Columbia

Funding received: February, 2015

I am currently a PhD candidate at the University of British Columbia under the supervision of Dr. Peter Cripston. This spring, thanks to an ISB travel award, I had the opportunity to travel to the Swiss Federal Institute of Technology in Zürich (ETHZ) to work with group head Dr. Benedikt Helgason in the

Laboratory for Orthopaedic Technology under the overall supervision of ETHZ Professor Stephen Ferguson. Previously, our labs collaborated to create computational models of hip fracture experiments with cadaveric femurs. Experimentally at UBC, we use digital image correlation (DIC), an optical technique for measuring displacement and strain, to measure what occurs on the surface of the bone during loading. By both performing the experiments and setting up the computational models, we can design our experiments to collect useful information for modeling, such as the points required to register the geometry from the CT to the experiment and use modeling to get the most information possible from the experiments. The lab in Zürich focuses on computational modeling and so working there provided a chance to use their expertise to setup a framework for specimen-specific finite element models of vertebrae loaded in compression.

I appreciated the chance to work in the laboratory in Switzerland since it made it easy to ask questions regarding the FE modeling, have many discussions about the findings, and to learn to use software and tools that we don't commonly use in our lab. Though my time there, I set up code to allow for efficient processing of vertebrae with different model parameters, material mapping strategies, and boundary conditions. This will allow for processing of all the vertebrae quickly and for sensitivity analysis to be performed easily. In addition, through attending weekly seminars I got to learn about the research projects being done at ETHZ.

I am thankful to everyone who helped make the trip possible. In particular, I am grateful for Drs. Helgason and Ferguson for hosting me and to all the students there who were welcoming and helpful around the office. Finally, I am appreciative of the funding from ISB that made the trip possible. I feel lucky for the time I got to spend in Zürich for helping my research progress.

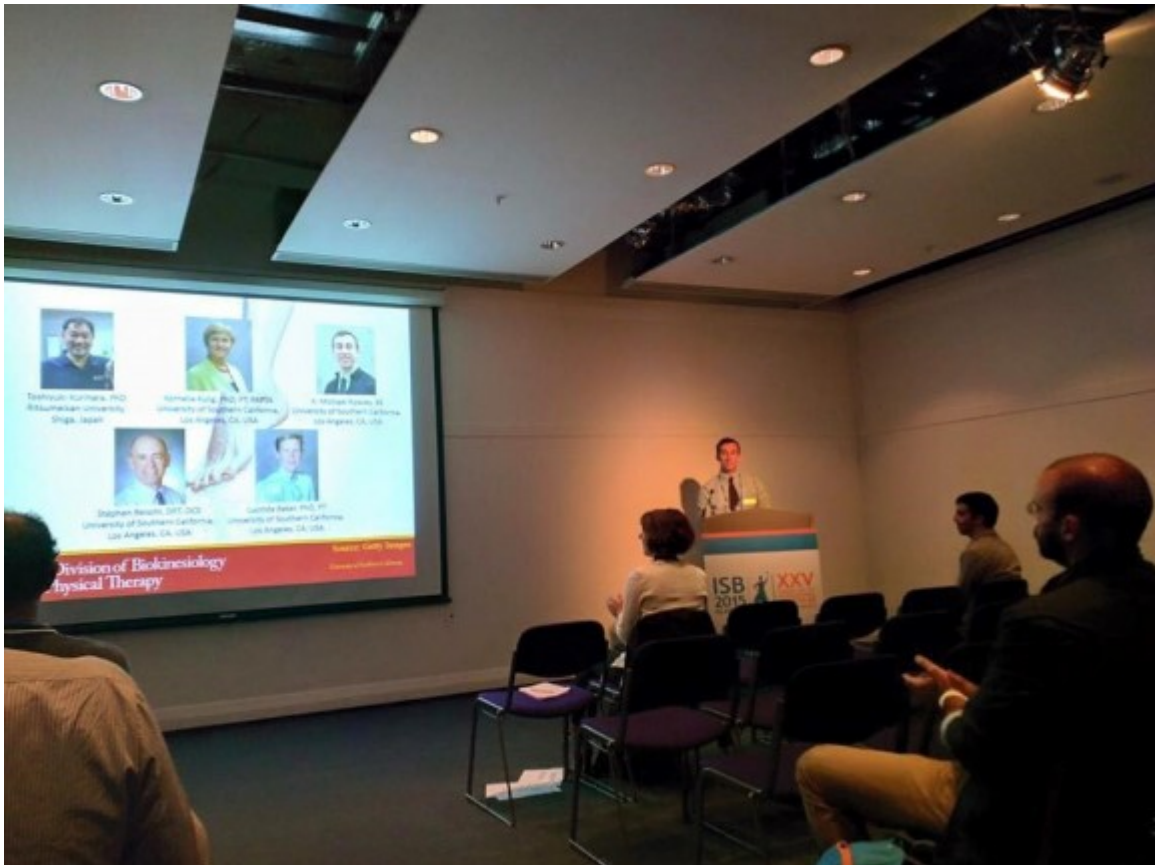
How the funding was spent

The money I received was spent to provide housing for 7 weeks while in Zürich (1900 USD) and to cover part of the airfare from Vancouver to Zürich.

Michael Rowley

University of Southern California, Los Angeles, CA, USA

Generous support from the International Society of Biomechanics allowed me to attend the organization's annual conference for the first time. I presented work that was a result of an international collaboration between the Division of Biokinesiology and Physical Therapy at USC in Los Angeles, California, USA and Ritsumeikan University in Kyoto, Japan. Dr. Toshiyuki Kurihara and I, under the advisement of Dr. Kornelia Kulig and input from clinical researchers Dr. Stephen Reischl and Dr. Lucina Baker, researched the role of intrinsic and extrinsic foot muscles during arch loading in various tasks and foot type. The presentation at ISB was met with positive comments and constructive suggestions for moving the work forward. For me personally, it was immensely beneficial to network with international scholars. I was introduced to many from Japan who have worked with Dr. Kurihara in the past as well as many from Europe. We are excited that the first manuscript from this work is under review with an ISB-affiliated journal and I look forward to presenting at ISB again and taking advantage of their many opportunities for students.



Philippe C. Dixon

Department of Engineering Science, Orthopaedic Biomechanics group, University of Oxford, Oxford, UK

ISB 2015, what a way to finish my student experience! During the ISB 2013 congress, I presented some early results of my doctoral thesis. Now, thanks again to the ISB student congress travel grant, I was able to present the final portion of my work to my friends and colleagues in the exciting city of Glasgow.

My presentation on the biomechanical adaptations of children with cerebral palsy during turning gait was well received and elicited many follow up questions from the audience. After my talk, I met new colleagues interested in my work and may even develop future collaboration thanks to my participation in the congress.

I was happy to see a number of other researchers presenting work on turning while walking, but also amazed by a wide range of interesting talks. In particular, I found the keynote lecture on motor control by Professor De Luca insightful and inspiring. The session on statistical parameter mapping was a huge success. In fact, I could not even make it into the room and had to miss the session! Luckily, I had a chance to chat with the presenters later during the congress. This highlights both the popularity of some of the new fields of biomechanics, but also the friendliness of our community.

I also attended the student seminars. The mock interview session was a great way for me to get an inside look at an academic interview session and find strategies to successfully land an academic position.

Outside the scientific sessions and the congress hall, I had opportunities to socialize with colleagues at local restaurants and pubs. I caught up with friends from around the world that I had not seen since the last congress and met many new colleagues.

I would like to thank the ISB congress travel grant committee for awarding me the change to participate in an exciting congress.

XVI Brazilian Congress of Biomechanics

By Ed Chadwick | September 2015

Report by

- Fernando Diefenthaler - Chair of the XVI Brazilian Congress of Biomechanics
- Felipe P Carpes - President-Elect of the Brazilian Society of Biomechanics
- Marco A Vaz - President of the Brazilian Society of Biomechanics

The XVI Brazilian Congress of Biomechanics (XVI BCB 2015) took place last May in the city of Florianópolis, Santa Catarina State. With more than 500 registrations completed (from different parts of Brazil and countries from Latin America like Chile, Uruguay, Argentine and Peru) and almost 350 papers submitted, the XVI BCB 2015 was the largest congress ever organized by the Brazilian Society of Biomechanics. There is no doubt that such number of registrations and papers submitted was highly influenced by the organization of the XXIV ISB Congress in Brazil, in 2013. The regular number of registration and papers submitted to the XIV BCB 2011 edition was half of what we observed this year. The activities were developed from May 06th to May 09th 2015 and included thematic workshops, invited lectures, round-tables, posters and oral presentations, as well as the ordinary General Assembly of the Brazilian Society of Biomechanics.



Prof. Walter Herzog, former ISB President

One of the highlights of this year's BCB was the ISB Invited Lecture given by Prof. Walter Herzog, former ISB President. His talk on the "Molecular Mechanisms of Muscle Contraction: Past, Present and Future" was breath taking and kept the audience's attention. Another interesting thing about Prof. Herzog is that he was probably the most photographed Invited Speaker ever of the BSB congresses. This probably reflects the impact of his work in Brazil (as many students have read his papers on muscle, cartilage and chiropractic manual therapy), and the fact that several Brazilian professors and students have spent some time at this lab. His contribution to the development of Biomechanics in Brazil and Latin America has been recognized by the entire BSB, and was a pleasure to have him in Florianópolis. We would like to acknowledge ISB for the financial support given to our Society as an ISB affiliated society, which allowed us to bring Prof. Herzog.

The second highlight we had during the XVI BCB (also supported by ISB), was the Award Ceremony at the Closing Ceremony when prizes were awarded for the best papers. This was the first time in the history the Brazilian Society of Biomechanics and in the history of the BCB that we had the Young Investigator Award in the congress. After a hard competition that included peer review of submitted papers and evaluation of oral and poster presentations, the three best papers were awarded with the ISB Young Investigator Award. Prizes were given in money for the first (USD 250.00), second (USD 150.00),

and third (USD 100.00) place papers that achieved the three highest scores in the review process. Additionally, distinction certificates were distributed for 10 papers that were included in the top best papers list according to the reviewers' indication. The next BCB will happen in 2017 in the city of Porto Alegre, Rio Grande do Sul State.

ISB Young Investigator Award:

Position	Presenter	Authors	Title
1st	Gabriela Fischer	Gabriela Fischer, Leonardo A. P. Tartaruga, Luca P. Ardigò & Alberto E. Minetti	Biomechanics of hand biking: insights about kinematic mechanical power components
2nd	Karine Velasques Stoelben	Karine Josibel Velasques Stoelben, Evangelos Pappas, Mateus Corrêa Silveira & Carlos Bolli Mota	Assimetrias no momento extensor de joelho tem relação com o Escore sintomas do KOOS após reconstrução do LCA?
3rd	Carlos de la Fuente	Carlos De la Fuente, Mauricio Delgado	Can cushioned shoes with anatomical insole correct the impact in runners with recurring shin splint?



Gabriela Fischer



Karine Velasques Stoelben



Carlos de la Fuente

HWBI 2015 Symposium in Milan, Italy

By Ed Chadwick | September 2015

The Hand and Wrist Biomechanics International (HWBI) was formed to further enhance multidisciplinary and international collaborations related to hand/wrist biomechanics. The HWBI has established affiliations with the International Society of Biomechanics (ISB) and the International Federation of Societies for Surgery of the Hand (IFSSH). The HWBI is proud of these affiliations, which support the HWBI's driving focus of advancing hand science by collectively addressing challenging clinical problems.

The HWBI has a long history of international symposia dating back to 1992. This year, the HWBI held its 9th Symposium at Milano Congressi in Milan, Italy from June 16-17, 2015. This year's symposium was held in conjunction with the 20th Congress of Federation of European Societies for Surgery of the Hand (FESSH), June 17-20, 2015. The symposium program featured 56 presentations including keynotes, invited talks, and open paper submissions. Main topics covered at this year's event included the wrist, carpal tunnel, finger mechanics, motor control, distal radial ulnar joint (DRUJ), distal radius, ligaments, tendons, and biomaterials. The 2015 symposium also featured the 2nd International Thumb Osteoarthritis Workshop. There was record attendance at this year's event, with 102 participants including hand surgeons, hand therapists, and engineers from 16 countries. The HWBI is excited to continue building upon the excitement and success generated during the symposium.

For the first time, the HWBI awarded travel scholarships for the 2015 symposium to outstanding students, residents, and fellows. Four scholarships were generously sponsored by the ISB, HWBI, and William H. Seitz, MD Research Fund. An award committee was formed to select this year's winners based on their abstract submissions to the symposium. The award winners were Joseph N. Gabra (USA), Benjamin Goislard de Monsabert (France), Faes D. Kerkhof (Belgium), and Giovanni F. Solitro (USA). The HWBI is grateful to the ISB and Dr. Seitz for their sponsorship and hopes to award even more scholarships at future symposia. For more information about the HWBI and its events, please visit the website at www.hwbi.org.

Zong-Ming Li, PhD
Chair, HWBI Board of Directors



HWBI scholarship recipients with symposium organizers. From left: Ken Fischer, Marc Garcia-Elias, Zong-Ming Li, Giovanni Solitro, Benjamin Goislard de Monsabert, Joseph Gabra, and Faes Kerkhof, and Fred Werner

Minutes of the ISB General Assembly

By Ed Chadwick | September 2015

Present:

ISB Council: John Challis (JC, Meeting Chair), Toni Arndt (TA, Minute Secretary), Ton van den Bogert (TvdB), Andrew Cresswell (AC), Graeme Wood (GW), Ed Chadwick (EC), Kelsey Collins (KC), Catherine

Disselhorst-Klug (CDH), Genevieve Dumas (GD), Andrea Hemmerich (AH), Bart Koopman (BK), Alberto Leardini (AL), David Lloyd (DL), Marco Vaz (MV), Antonio Veloso (AV)

Incoming ISB Council: Joe Hamill (JH), Rob Herbert (RH), Kirsty McDonald (KM), Taija Finni (TF), Dan Benoit (DB), Felipe Carpes (FC)

Auditorium:

Yumna Albertus, Kai-Nan An, Erica A. Bell, Devi Bhechipp, Maarten Bobbert, Morgana Alves de Britto, Silvi Cabral, Stephen Cain, Federico Casolo, Yu-Jen Chang, Nachiappan Chockalingam, Paola Contessa, Brian Davis, Tara Diesbourg, Jaap H. van Dieën, Zachary Domire, Avi Dutt-Mazunder, Veronique Feipel, Ligre Fonseca, Heiliane Fontana, Steph Forrester, Matias Fröhlich, Wendy Gilleard, Menhe Grey, Alexander Groetsch, Allison Gruber, Eliane Celina Guadagnin, Geoffrey Handsfield, Elizabeth Hardin, Jerome Hausselle, Walter Herzog, Jamie Hibbert, Sandra Hunt, Zhi Akira Iiboshi, Bente R. Jensen, Angela Kedgley, Peter Keir, Joshua C. Kline, Kathrin Koch, Anne Koelewyn, Paavo Komi, Morcos Roberto Kunzler, Sabrina Lee, Giovanni Legnani, Carlo De Luca, Alison McGregor, Peter Milburn, Clare Milner, Vera Moniz-Pereira, Annegret Mündermann, Benno Nigg, Ikko Omuna, Matthew Pain, Enrica Papi, Mark Percy, Jeremy Pitman, Phil Riches, Emmanuel Souza da Rocha, Mary Rodgers, Gwyneth Ross, Phillip Rowe, Zev Rymer, Benedikt Sagl, Matthew Salzarro, Zdenka Sant, Heide Schewe, Francis Sheenan-Gavell, Julio César Lima da Silva, Laura Slane, Kenneth Smale, Julie Steele, Kat Steele, Darren Stefanyshyn, Lauri Stenroth, Cara Swanepoel, Fredrik Tinmark, Marja B. Do Valle, Agnelo Denis Vieira, Sybere Williams, Samantha L. Winter, Fred Yeadon, Ron Zernicke, Kristin Zhao, Becky Zifchock,

Please accept apologies for misspelt attendee names. I have done my best with the handwritten attendance list provided. Toni Arndt

1. **Welcome** (*John Challis*)

Meeting opened by JC at 12.30

All ISB members were welcomed to the General Assembly.

2. **Apologies:** None.

3. **Approval of the General Assembly minutes: 8th August 2013**

MOTION:

Moved: John Challis; Seconded: Ron Zernicke

“That the Minutes of the ISB General Assembly held in Natal, Brazil on August 8 2013, as reported in ISBNow (September 2013 issue), be approved.”

Approved unanimously with no business arising.

4. **President’s Report** (*John Challis*)

Summary of council members’ activities last two years:

President:

- Oversight of Operating Codes
- Committees: EDC, grants, awards
- ISB Fellows. Outlined criteria for fellowship. Julie Steele was the Censor of Fellowship

nominations. Those nominations forwarded by the Censor were then voted by the ISB Executive Council at the pre-congress meeting. The inaugural ISB Fellows are:

Ton van den Bogert

Maarten Bobbert

Brian Davis

Veronique Feipel

Walter Herzog

Jill McNitt-Grey

Peter Milburn

Mary Rodgers

Darren Stefanyshyn

Ron Zernicke

President Elect:

- Bidding process for ISB2017 (Brisbane)

Past President:

- Muybridge Award to Professor Kai-Nan An
- ISB Council elections

Awards Officer:

- Young Investigator Award
- Promising Young Scientist
- Emerging Young Scientist
- Promising Young Scientist
- Clinical Biomechanics Award

Student Grants Officer:

- One of major expenditures of the Society.
- 22 (28) congress travel grants (CTG)
- 2 (2) technical group travel grants (TGTG)
- 8 (10) matching dissertation grants (MDG)
- 15 (14) international travel grants (ITG)

Informatics Officer:

- Website upgrades
- Biomch-1

Publications Officer:

- ISBnow newsletter

Technical Groups Officer:

- Four Technical Groups:
 - 3D Analysis of Human Movement
 - Footwear Biomechanics
 - International Shoulder Group
 - Computer Simulation
- One Working Group: Hand & Wrist Biomechanics
- One Seed Group: Motor Control
- Big steps have been taken to formalise the relationship of Technical Groups with ISB.

Affiliated Societies:

- 19 Affiliated Societies, 20 after inclusion of the Korean Society of Biomechanics (see motion below)
- ISB sponsorship of keynote lectures and student awards
- Korean Society of Biomechanics bid to become an Affiliated Society

MOTION:

Moved: John Challis; Seconded: Fred Yeadon

“That the ISB recognize the Korean Society of Biomechanics as an Affiliate Society of the ISB.”

Approved unanimously with no business arising.

Economically Developing Country (EDC):

- Federal University of Pampa, Brazil
- MGM Institute, India
- INJEPS, Benin
- Moi Hospital, Kenya

Tutorials and Education Officer:

- Four tutorials at ISB 2015
- Videos available on ISB web-site (soon)
- Biomch-V

5. Treasurer's Report (Graeme Wood)

Balance Sheet (as at 30 June 2015)

All in Australian Dollars (1 AUD = 0.73 USD)

AUS Checking Account	3,146	
AUS Savings Account	16,771	
USA Checking Account	62,322	
USA Saving Account	75,241	
Total:	157,480	[USD 114,960]
[2013 Balance:]	253,324	[USD 227,992]

Income / Expenditure Statement: 1 Jul 2013 to 30 Jun 2014

All values in Australian Dollars (1 AUD = 0.85 USD)

Revenue	155,555	
Expenses	212,010	
Profit (Loss)	(56,455)	Budget (46,500)

Income / Expenditure Statement: 1 Jul 2014 to 30 Jun 2015

All values in Australian Dollars (1 AUD=0.73 USD)

Revenue	145,410	
Expenses	184,799	
Profit (Loss)	(39,389)	Budget (46,500)

Revenue	2013/14	2014/15
Members' Dues	64,308	92,814
Bank Interest	2,218	439
Advertising	4,802	0
Sponsorship	27,264	32,531
Tutorials (ISB2013)	4,065	0
SB2013 Loan Repayment	11,765	0

Expense Item	2013/14	2014/15	Budget
Student Grants	42,821	56,793	[45,000]
Tutorial programme	15,776	0	[9/2,000]
EDC programme	28,588	27,234	[25,000]

Affiliate Society support	11,064	9,490	[10,000]
Technical Group support	3,999	8,058	[5,000]
Student events	7,190	3,158	[5,000]
Website	15,777	38,762	[18,000]
Congress 2013 & 2015	2,941	14,384	[12/5,000]
Recurrent costs	4,631	6,893	[15,000]
Council costs	10,034	10,726	[12,000]
Awards/Plaques/Certificates	17,147	2,061	[10,000]
Treasurer's costs	16,500	16,500	[16,500]

Auditor's Report: ISB members, Kai-Nan An (USA) and Steph Forrester (UK) audited the financial reports. They stated that they regarded the reports as clearly presented, that the finances had been well handled and everything looked in order.

MOTION:

Moved: John Challis, Seconded: Andrew Creswell

"...that the General Assembly accept the Financial Reports prepared by the Treasurer as a true and correct statement of the Society's finances"

Approved unanimously.

GW presented the proposed budget 2015-16 and 2016-17. Comment by JC: Cannot continue spending down, but to maintain operations will increase membership fee and decrease level of support in some areas.

(All in Australian Dollars (1 AUD = 0.73 USD) (Big Ticket items))

Revenue	2015-16	2016-17
Dues	54,000	70,000
Sponsorship	54,000	40,000
Other (loan repay; advertising; tutorials; bank interest)	7,500	1,000

Expenditure	2015-16	2016-17
Student grants	30,000	35,000
Developing countries	5,000	15,000
Website	20,000	5,000
Awards	15,000	2,000
Tutorials	2,000	0
Education	5,000	5,000
Archives	0	0
Congress 2015 / 2017	1,000	0
Affiliate Soc. Support	5,000	5,000
Technical groups	3,000	3,000
Student activities	3,500	3,000
Recurrent costs	5,000	5,000
Council costs	7,500	7,500

Treasurer's costs	16,500	16,500
Profit (Loss)	(4,000)	5,500

Brian Davis: why does level of support to EDC's fluctuate from 5000 AUD to 15000 AUD between years?

Would it not help EDC if they could do research in off years to present at congress the following year.

AH: Decided to focus on education and collaboration networking, part has been to get researchers to congress, budget spent on EDC congress travel grants, therefore 15000 this year but not next year. Will look at this every year to see what is needed. With limited funding available, need to make sure that those asking for funding can get all support they need, not just financial. So in following year there won't be a large need. Next big requirement will be travel grants in the second year of the budget.

MOTION:

Moved: John Challis; Seconded: Marco Vaz

"That the Membership Dues be increased by 20 per cent, i.e. AUD 120 (Full member); AUD 36 (Student member)."

Andrea Hemmerich and Benno Nigg against, Fred Yeadon abstained.

Motion Approved.

MOTION:

Moved: John Challis; Seconded: Marco Vaz

"That the budget as presented by the treasurer, be approved".

Approved unanimously.

6. Student Representative's Report (Kelsey Collins)

- Maintained Facebook, LinkedIn, twitter
- Student event at World Congress of Biomechanics
- Women in biomechanics initiative
- Events at ISB Congress:
 - Go-Ape
 - Outreach session
 - Cool under pressure
 - Mentoring session
 - Mock academic interview
 - Inaugural Women in ISB Lunch

7. Past President's Report (Ton van den Bogert)

ISB Election Results

499 votes received

President Elect: Joe Hamill

Elected Council members:

Alberto Leardini

António Veloso

Bart Koopman

Dan Benoit

Catherine Disselhorst-Klug

Ed Chadwick

Felipe Carpes

Glen Lichtwark

Taija Finni

Thor Besier

Kirsty McDonald (student representative)

TvdB thanked all current Council members.

8. Thank you to outgoing Council Members (*John Challis*)

JC also thanked all Council Members. Special thanks to Andrea Hemmerich for her work with Affiliated Societies and EDC's.

JC thanked the outgoing Council Members for their services:

Ton van den Bogert

David Lloyd

Genevieve Dumas

Toni Arndt

Marco Aurélio Vaz

Kelsey Collins

Scott McLean

John Challis handed over the President's gavel to Andrew Cresswell as new President. Andrew Cresswell thanked Ton van den Bogert and John Challis for their mentoring roles and mentioned that it will be a privilege to have Joe Hamill on Council as new President Elect.

Also thanked outgoing Council members. Thanked Toni Arndt for his work as Secretary General and presented the new Secretary General Rob Herbert. Special thanks to Graeme Wood for long work as Treasurer.

9. Presentation of new Council Members (*Andrew Cresswell*)

ISB Executive Council 2015-2017

Andrew Cresswell, *President*

John Challis, *Past-President*

Joe Hamill, *President-Elect*

Rob Herbert, *Secretary-General (appointed)*

Graeme Wood, *Treasurer (appointed)*

António Veloso, *Technical Groups Officer*

Bart Koopman, *Affiliated Societies Officer*

Felipe Carpes, *Developing Countries Officer*

Catherine Disselhorst-Klug, *Awards Officer*

Alberto Leardini, *Student Grants Officer*

Kirsty McDonald, *Student Representative*

Glen Lichtwark, *Education & Tutorials Officer*

Taija Finni, *Education & Tutorials Officer*

Ed Chadwick, *Publications Officer*

Thor Besier, *Informatics Officer*

Dan Benoit, *Sponsorship Officer*

AC informed that he wasn't on the Brisbane organizing committee when the vote to select the host for ISB 2017 was made. He therefore had no conflict of interest. He has since been co-opted onto the organizing committee.

10. **Other Business** (*Andrew Cresswell*)

No other business was reported. AC said a final thank you to all.

AC closed the meeting at 13.20.

Minutes respectfully submitted by Toni Arndt, ISB Secretary General

Updates from our new EDC Officer, Felipe Carpes

By Ed Chadwick | September 2015

Dear ISB members,

This is Felipe Carpes, your new EDC officer in the ISB Executive Council. After the great job Andrea and all the EDC committee members did in the ISB in the last years, I have the challenge to keep all the current actions running and propose new opportunities for EDC biomechanics scientists and students around the globe. In a few weeks you will receive a message concerning details of the current ISB initiatives in the EDCs. Additionally, we are working to update the contact list of EDC members to ensure that all of them can receive information about opportunities and also keep in touch with the EDC officer. We will also request updates on the current projects, to promote the activities developed and to incentive new ones. Any time you have any questions or suggestions, as well as if you want to help EDC initiatives, do not hesitate in contact me.

Neuromech TV is live at Youtube



As part of our EDC project related to biomechanics learning in the Federal University of Pampa in Brazil, our group has now launched the Neuromech TV. After almost three years promoting online webinars and symposiums, in the last year we started to record the webinars and also lectures in some events, especially the Annual Symposium on Applied Neuromechanics, which is an event our Research Group on Applied Neuromechanics from the Federal University of Pampa organizes every year in partnership with others Brazilian biomechanics groups. Neuromech TV is a Youtube Channel with the purpose to create and share scientific materials with free online access and with quality enough to help students and scientists interested in the study of the human movement, and its related topics. The Neuromech TV offers videos for free and does not have any commercial or economic interest. The channel now has more than 20 lectures online, and the next update will be related to some small courses and also interviews. Some of the material will be in English, other in Portuguese or Spanish.

If you like the idea, subscribe to the channel in YouTube. Here is the link: www.youtube.com/c/neuromehtv

If you want to join this collaborative project, you are very welcome!

Felipe Carpes, Ph.D.

Interview with Mary Rodgers, Past President (2003 - 2005)

By Ed Chadwick | September 2015

In May, Kelsey Collins and I had the privilege of speaking with Prof. Mary Rodgers (ISB President from 2003 - 2005) about her career, reflections on the broader biomechanics community, and our collective future in this field. Mary currently spends her time between the National Institute of Biomedical Imaging and Biomedical Engineering at the National Institute of Health (NIH) and as professor at the Department

of Physical Therapy and Rehabilitation Science at the University of Maryland. This interview continues the series that began with Julie Steele published in the March 2015 issue of ISB NOW [\[link\]](#). A short video featuring segments of these interviews can be accessed [here](#).

Being open to new opportunities can lead to unanticipated, meaningful achievements

“Obviously none of those [plans] worked out... And I’m really happy that they didn’t.”

“...Academics and research has allowed me to go places, do things, and see things that I never would have...”

What struck me is how different Mary’s career path has been compared to what she’d expected when she started her journey as an undergraduate Physical Therapy student. At one point later in our conversation - when she’d already told us about a number of her accomplishments that had made an impact in the biomechanics and rehabilitation communities, such as her early research on wheelchair propulsion and her contributions within the NIH Technology for Healthy Independent Living program - she stated matter-of-factly, “Never say never!” She had never intended to get any schooling beyond her Bachelor’s degree nor work in academia rather than clinical practice. And yet, she immensely valued the opportunities that her academic and research path allowed her to experience.

In today’s world, where not only technology, but also our mindset around work culture both in academia and industry, are evolving so quickly, it may be impossible to predict where we could end up in five or ten years from now. Mary’s receptive approach to the possibilities presented at each moment of her career and personal life is a good reminder to myself to stay focussed on the present. After all, we may discover that the unanticipated direction turns out to be more important than anything we had envisioned with our original intent!

The interdisciplinary nature of future healthcare

“I think having that base [in physical therapy] was really important for my later work with biomechanics.”

“There are huge issues around the use of technology. But there’s also huge potential because we have the ability for much more individualized and personalized healthcare.”

Mary described a future healthcare environment involving technology that would enable input of both personal information and the extensive experience of all other individuals contained in ever-growing “big data” databases to provide better clinical decision-making and guidance as part of health interventions. As she spoke, I imagined who might be involved from the patient’s perspective in developing such technology: physicians, therapists, engineers, perhaps also psychologists, sociologists, and others to help us understand and integrate these sensorial and emotional “experiences” into the design. Mary also mentioned a number of issues that would need to be addressed from an even broader perspective before it could be an effective system, including ownership, privacy, security, management of data and deciding how it would be used. The scope of ethical, legal, technical, economic, and medical issues is really mind boggling, but the potential is also very exciting.

It is clear that as we move forward, expertise from countless disciplines must be integrated within our concept of health and how it is provided. No matter what our backgrounds are, whether it be physical therapy like Mary’s or engineering like my own, these diverse perspectives and approaches will be important as our potential for innovation expands. What may be fathomable to only those such as Mary who are working directly in these areas of research, however, is the immeasurable ways in which these developments could be used. Improved technology for self-managing one’s own care - with requirements

that increase as ability simultaneously decreases with age - is only one possibility that Mary hopes will be ready when she needs it!

Women's progress in the biomechanics field

"...at the ASB meetings now it almost looks half and half [in terms of gender distribution] ... across the audience"

"...that you're doing this... means we've come a long way."

When asked about her biggest successes and contributions (and having scanned through Mary's CV, I know there are many), she first mentioned her research on wheelchair propulsion biomechanics. Her work was the first to analyze users' movement in three-dimensions with the goal to improve interventions that prevent overuse injury. This emphasis and dedication to the science is paramount (in my opinion) for role models in biomechanics.

However, continued advocacy is critical. Mary next mentioned her leadership roles within both the American and International Society of Biomechanics and I appreciate that she highlighted these achievements, especially the impact they have on gender equality in this field of research. One point she emphasized was the importance of women leaders exemplifying change within the ISB. This sentiment was echoed by just about every speaker at our inaugural women's lunch that Kelsey organized at the ISB2015 congress. I was thrilled to later learn that this encouragement resulted in dozens of e-mails to John Challis, Past President, with suggestions for female candidates for the 2017 Council elections. Mary credits one of her female mentors with opening doors for her; likewise, I'd like to thank Mary for doing the same for many of us. The Twitter feed (below) from the ISB2015 lunch can attest to that.



IntSoc Biomechanics @ISBiomechanics · Jul 16

An excellent panel of female biomechanists delivering inspiring talks at the Inaugural Women in Science Lunch



To view video clips from our interview with Mary Rodgers, please follow [this link](#).

Andrea Hemmerich, PhD