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# Newsletter

Volume: 31 - Number: 2, December 2018

## From the President

**Brian Umberger**



As I write this column, the end of 2018 is rapidly approaching. While my phone and tablet are full of retrospectives on the year that was, this part of the calendar has me looking forward to some of the exciting activities in store for us in 2019.

As this newsletter goes to press, it will be getting close to the abstract deadline for the ASB annual meeting begin held jointly with the International Society of Biomechanics (ISB) in Calgary, Alberta, Canada. The abstract deadline set by the local conference organizers is January 31, 2019. Be sure to check the [conference website](#) for the latest information and abstract submission guidelines. Whenever ASB convenes jointly with another society, it means we will miss some of the traditional elements that characterize our annual meetings. At the same time, the joint meeting in Calgary will provide a unique opportunity to share our research with and engage with a larger and more international crowd. It does seem I am a magnet for atypical ASB meetings, having been program chair for the 2014 meeting in Boston as part of the World Congress of Biomechanics (WCB), and now serving as president during the 2019 joint meeting with ISB in Calgary. Indeed, my very first ASB meeting was a joint meeting with the Canadian Society of Biomechanics held at the University of Waterloo in 1998. Based on these experiences, there should be much for us to look forward to this summer. Calgary is a great place to hold a conference and the local organizers in the Faculty of Kinesiology at the University of Calgary are sure to put on an exceptional conference. People who have been around long enough will fondly recall the 1999 ISB and 2002 WCB meetings in Calgary, both of which ASB participated in. See the Program Chair column by Dan Ferris in this issue for more details about our ASB-specific programming at the meeting this summer.

Aside from great conferences, one of the reasons it is exciting to be part of the biomechanics community today is because National Biomechanics Day (NBD) continues to grow in size and impact, having become a truly global phenomenon. In only three years, NBD has reached over 20,000 students and nearly 800 teachers, with aspirations to exceed those numbers in 2019 alone. The next NBD will be on April 10, 2019. I encourage everyone to consider hosting an NBD event and register your group on the [NBD website](#). It cannot be long now until National Biomechanics Day becomes widely recognized among the public, appearing in printed calendars and showing up automatically in your electronic calendar. This

Continued on page 3...

# Student's Corner

## Andrew Vigotsky

I want to start by thanking Katie Knaus for her service as ASB Student Representative over the past couple of years. The student events at the 2017 and 2018 meetings were undoubtedly enjoyed by all. Moreover, in setting up the ASB Student Advisory committees, she improved student involvement in the society (including myself) and provided a framework to increase productivity. Thank you again, Katie!



Having just taken the position of ASB Student Representative about four months ago, I am delighted by the progress that the ASB Student Advisory Committee and I have been making towards the implementation of numerous new initiatives. These efforts range from new approaches to information dissemination to restructuring the mentor-mentee matching process for the annual meetings. I am very excited to these come to fruition in the spring and summer, in addition to receiving feedback from the Society upon implementation.

I am looking forward to this year's joint meeting with the International Society of Biomechanics (ISB)! The ISB Student Representative—Melissa Boswell—and I have been planning student events to which I would like to call attention. On the first day of the conference (July 31), students have the option to go [hiking in Kananaskis Country](#). Toward the middle of the meeting, there will be a [Student Night Out](#) at Ranchman's Cookhouse and Dancehall, where there will be live music, food, and drinks. Finally, there will be a [Student Mentorship Lunch](#), where students will have lunch with their paired mentor. I encourage students who are interested in these events to register sooner than later, as spots are limited.

Finally, I wish to remind students and their advisors of funding opportunities provided by ASB and their respective deadlines. First, the [ASB Graduate Student Grant-in-Aid \(GIA\)](#) supports promising student research with a one-year \$2,000 grant. Applications for the GIA are due on January 15, 2019. (Editor's note: this deadline has now passed.) Second, Student Travel Awards provide \$250 for those who will be presenting at the annual meeting; please submit [Student Travel Award](#) applications to the past-president ([Wendy Murray](#)) on or before January 31, 2019. For further details, please see the ASB website. We look forward to receiving your applications!

*"Science is a way of thinking much more than it is a body of knowledge."*

- Carl Sagan



## ASB Involvement

If you are interested in VOLUNTEERING with ASB, contact the Communications Committee Chair ([Tarang Jain](#)) with the following information (1) NAME, (2) CONTACT INFORMATION, (3) ASB discipline, (4) research area and (5) how you would like to get involved (e.g., conference abstract review, awards committee, grant application review, student committee, another executive board committee, etc...).



## Back Copies of the Newsletter

All previous ASB newsletters have been converted into pdf documents and are archived on the [ASB website](#).

## From the President, cont.

Brian Umberger

year, NBD falls on National Siblings Day (so if you have siblings get them involved too), and is bookended by National Cherish an Antique Day and National Cheese Fondue Day. How do those appear on official “national day” lists but NBD does not? Perhaps the antique and cheese fondue industries have especially effective lobbyists, but we have Paul DeVita, the founder of NBD, on our side. With the current momentum, it is surely just a matter of time until adults start seeing National Biomechanics Day on their calendars and asking, “Huh, what is that?”, and in response having biomechanics explained to them by a student who participated in an NBD event.

Another area that is gaining momentum is our planning for the future of the Society. Building upon the wealth of data derived from the self-study survey, the Future of ASB session in Rochester, and the informal feedback we have received from many members, the executive board is moving forward with the strategic planning initiative. I will not provide an extensive update here as it would mostly be about process at this point (i.e., boring) and there will be specific opportunities to share our work and receive feedback from the membership in the year ahead. I will comment on one finding from the survey that really stood out to me, though. A large fraction of the membership would really like to become more directly involved in the Society. Perhaps I should not have been surprised, as ASB members rarely decline when asked to help the Society. Yet, the level of enthusiasm was a welcome and heartening surprise. Therefore, one element of our plan for accommodating the continued growth of the Society will be to formalize more ways for members to become involved in ASB, and to provide recognition for their service to the Society.

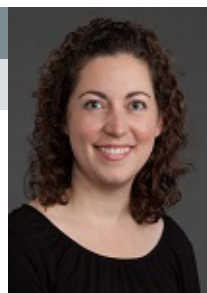
In closing, I hope everyone has a great start to the New Year. I look forward to seeing many of you in Calgary, and don't forget to renew your ASB membership!





# Secretary/Membership

**Katherine Saul**



The new American Society of Biomechanics [membership portal](#) is now open! To better serve the society and improve the member experience, we recently migrated the ASB membership database to a new host. In the portal, you can pay your 2019 dues, buy journal subscriptions, donate to the award funds, and search the membership directory. Potential new members can also apply online for membership via the portal. To log in to the [new site](#), please create a [new user account](#) using the email account with which you have previously communicated with ASB. Once you create your account and log in, you will be asked to update your user profile—please make sure all information on record is accurate and up to date. Accurate member records are essential to the society. For example, we use member affiliation to help identify potential sponsors for new members. Demographic information in aggregate is used to support diversity and inclusion initiatives, including applications for NIH support of diversity travel awards. Discipline information is needed to ensure representation of all ASB disciplines on society committees. Once your profile is updated, you will have the opportunity to access user services.

Big thanks are owed to Stacie Ringleb, my predecessor, who oversaw the database import. And thank you to the membership for your patience while we paused membership applications and dues during the migration. Please enjoy exploring the site!

We currently have 909 members. Of these, 548 are regular members, 348 are student members, and 13 are emeritus. Membership renewal for the 2019 year is now available. As of January 28, we have had 526 people (357 regular, 169 student) renew their membership for 2019. Please be sure to renew your membership early in the year. You must be a member in good standing to sponsor new member applicants or endorse applications for Grants-in-Aid. This year, we continue our **annual gift card** drawing for people who renew their membership early. Members who renewed by December 15<sup>th</sup> were entered in a drawing for a \$100 Amazon gift card. The winner was Victor Kosmopoulos. Members who renewed by January 15<sup>th</sup> were entered in a drawing for a \$50 Amazon gift card. The winner was K. Michael Rowley. Congratulations to our winners and thank you to all who have already renewed membership.



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## Advertising in the Newsletter

The Editorial Board invites businesses that have products or services of interest to members of the Society to advertise in the ASB Newsletter. Advertising space may also be purchased for job postings or other special announcements.

The current advertising rates are as follows:

1/4 page – \$100  
1/2 page – \$200  
full page – \$400

If you are interested in learning more about advertising in the ASB newsletter, please email Dan Gales:

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### Tamara Bush



Greetings from your Treasurer!

It was great to see many of you at the Rochester meeting this summer! In terms of the financial aspect of the meeting—I do not have the final numbers in yet from the summer meeting, but the Conference Chair indicated that she expected a bit of a surplus once all budget items have been settled. Thanks again to the Mayo Team for hosting the 2018 ASB Conference! We also had several awards given at our annual meeting; with these awards, there is also a financial stipend which was provided to each awardee either just prior to or following the annual meeting. ASB provides approximately \$18,000 in the form of meeting awards.

The regional meeting funds have been paid out (\$12,000) to all six regional locations—so look for announcements from your regional hosts. Meetings will be at the following six locations:

- Northwest Biomechanics Symposium – Montana State University
- Midwest ASB Regional Meeting – University of Dayton
- ASB East Coast Meeting – Penn State, Berks Campus
- Human Movement Science and Biomechanics Research Symposium – University of North Carolina
- Mid-south Biomechanics Conference – University of Memphis
- Rocky Mountain ASB Regional Meeting – University of Colorado

Our checking account is healthy; it currently has \$86,000 in it for ASB use. We also provided starter funds (\$20,000) for the 2020 meeting and have set aside funds to be used as a starter loan for the 2021 meeting. Hosts require down-payments on event locations prior to funds coming in from registrations. These funds are repaid once the conference registration process is underway, but critical in securing our conference venues. Our long term investments have decreased in value, due to the recent market downturn. Current value of these investments is \$202,600.

As ASB Treasurer, I also manage the donations for National Biomechanics Day (NBD). This account has approximately \$25,000 for use toward the NBD initiative which is led by Paul DeVita.

Finally a thank you to Brenda Bowen and Lyndie Pope for their continued assistance; as Treasurer, I work with both of them on the ASB accounting and tax documents.

Feel free to contact me if you have questions!

*"Scientists have become the bearers of the torch of discovery in our quest for knowledge."*

**- Stephen Hawking**

# Education Committee

**Kimberly Bigelow**



The ASB Education Committee stays busy throughout the year and as you read this, we'll be beginning one of the most challenging things we do—read and review all of the great proposals submitted for the ASB Graduate Student Grant-in-Aid award (due January 15<sup>th</sup>). The committee's workload has increased over the years to now consistently receiving 20 to 30 applications each year. We hope this year to receive a record number of applications (even if that means more work for us!). We have worked with ASB Student Representative Andrew Vigotsky to spread the word prior to the 2019 deadline to make sure students and their advisors are aware of this annual opportunity. Each year ASB awards five \$2,000 awards to graduate students to offset the costs directly associated with conducting research. Funds may be used for small equipment items, materials and supplies, animal or participant (including participant travel) costs, and statistical consulting services or other research-services. Funds cannot be used to support researcher travel costs, salaries or indirect costs of research. The proposals are all reviewed according to a comprehensive rubric that is available on the ASB website. Please note that for the 2019 grant cycle, there have been minor changes to the eligibility and application criteria for the upcoming application cycle. Most notably, we have clarified the wording that all applicants—and their advisors—must have paid their dues for the coming year before the submission deadline.

The spring will also be very busy as regional ASB meetings are held across the country. Each year on September 30<sup>th</sup>, applications are due to host a regional meeting, with ASB support of up to \$2,000. While ASB normally only awards five, we received six great applications this year and the Executive Board felt that because the regional meetings are really a benefit to all of our members, and because we were financially able to do so, all six were funded! Regional meetings are student-centric events that are a great way to network with fellow students and faculty at nearby institutions, as well as to build confidence presenting in a supportive environment. Because regional meetings are so affordable, they serve as a mechanism for faculty to get larger groups of students to an ASB event than perhaps would otherwise be able to attend the national (and this year, international) conference. Often people drive from several states away to attend. The meetings start in February and continue through May. At the time of this writing, all of the meetings had proposed dates but some were not confirmed. Check the ASB website, Conferences Tab for more details. A special invitation to ASB regular members: while the regional meetings are quite student-centric, the potential impact is largely due to your presence and engagement. Please consider attending (and bringing students and colleagues, especially those new to ASB) if you can.

The 2019 regional ASB meetings are:

- Mid-south Biomechanics Conference (MSBC), University of Memphis School of Health Studies, Memphis, TN, Conference Co-Chairs: Drs. Douglas Powell and Max Paquette, February 21 – 22, 2019
- Midwest ASB Regional Meeting, University of Dayton, Dayton, OH, Conference Chair: Dr. Kim Bigelow, February 28-March 1, 2019



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## **Education Committee, cont.**

### **Kimberly Bigelow**

- Human Movement Science and Biomechanics Research Symposium, The University of North Carolina at Chapel Hill, Chapel Hill, NC, Conference Chair: Mr. Christopher Johnston, March 22, 2019
- Rocky Mountain ASB Regional Meeting, University of Colorado Boulder --- Held at YMCA, Estes Park, CO, Conference Chair: Dr. Roger Enoka, April 5 – 6, 2019,
- ASB East Coast Meeting, Penn State, Berks Campus, Reading, PA, Conference Chair: Dr. Joseph Mahoney, April 12 – 13, 2019
- Northwest Biomechanics Symposium, Montana State University, Bozeman, MT, Conference Co-Chairs: Drs. Scott Monfort and James Becker, May 17 – 18, 2019

We wish to thank all of the conference chairs who have stepped up and all of their respective planning committees. While some of our regional meetings have long histories, other geographical regions have not hosted a regional meeting in a long time, if ever. All it takes is someone to step up and offer to host the meeting (as I'm finding as I host my first, it isn't too hard!). If you are interested in hosting in the future, please reach out to me and I am happy to provide you any support I can. And if you are in Michigan, Ohio, Indiana, Illinois, Wisconsin or beyond—I personally hope to see you in Dayton this February for our Midwest meeting!

The committee is also looking forward to the 2019 ISB/ASB meeting in Calgary. Abstract submission is open until the end of January. Please remember that abstracts which pertain to the scholarship of teaching and learning of biomechanics are welcome and encouraged! We have seen an increasing number of submissions in my time as Education Chair and we have been able to integrate the great work submitted into our annual Teaching Symposium and highlighted other work in poster presentations. Please help us continue this great work, and make our 2019 Teaching Symposium outstanding by submitting your education and outreach-related abstracts and encouraging your colleagues and students to do the same.

I also would be remised without my regular reminder to continue to submit your teaching and outreach-related ideas to the [ASB Teaching Repository](#). Many of our current submissions are lessons and activities that are appropriate for K-12 audiences, so as you prepare your NDB events, be sure to check the repository.

And finally, it is time for me to wind my time down as ASB Education Chair. A new chair will take my place at the annual meeting in Calgary. The ASB Education Committee Chair is a three-year committee and is supported by an ASB Education Committee which also serves for the same three year period. (My committee has been great and you are each so appreciated!) If you are interested in increasing your involvement in ASB, consider stepping up as ASB Education Chair or as a member of the ASB Education Committee. As a first step, you can [email](#) me and I'll walk you through the application process. Serving as Education Chair on the ASB Executive Board has been an incredible experience with the chance to get to know the entire membership better—I would highly recommend it!



# Past-President

Wendy Murray



As Past-President, it is my honor to manage the awards process for the upcoming annual meeting. The full suite of ASB award offerings are summarized below; details for applying for each opportunity are found on the [ASB webpage](#). Questions about how to apply for any award can be directed to [ASBPastPresident@gmail.com](mailto:ASBPastPresident@gmail.com).

Some of our awards (Borelli, Founders, Goel, Hay, and Young Scientist) honor an individual for their contributions to the field of biomechanics, while others (Journal of Biomechanics, Clinical Biomechanics, and President's) honor the quality of a given research project, and are selected based on the quality of the submitted abstract and presentation at the annual meeting. Finally, ASB offers competitive grant awards (Junior Research Faculty Award, Research Travel Grant, Student Travel Awards, and Graduate Student Grant-in-Aid Program), which are summarized in this column and online for member information.

Because the 2019 annual meeting of ASB is in collaboration with ISB, there are a few important details to bring to your attention. With the exception of the Jim Hay Award (details below), the deadline for submission of materials for consideration for individual ASB awards is the same time abstracts are submitted to the annual meeting. **A reminder that ISB/ASB 2019 Abstract Submission closes on January 31, 2019, which is a bit earlier than the standard timeline for ASB abstracts.** Second, because the Clinical Biomechanics Award is typically awarded by both ASB and ISB when our meetings are separate, **the 2019 Clinical Biomechanics will be given jointly by both ISB and ASB in Calgary.**

Just a reminder that the American Society of Biomechanics approaches selection of award winners earnestly. The [Awards Selection Process](#) is summarized online; there are different processes for individual awards, awards that honor the quality of a given research project, and competitive grant awards. For reference, generally over 60 individuals participate in the review process for awards each year. Management of conflicts of interest follow standard NIH/NSF guidelines. If in doubt, we err on the side of removing any possibility of conflict.

## **Awards that honor an individual for their contributions to the field of biomechanics:**

Individual awards are selected from among nominations that are received by the ASB Past-President. **All nomination materials for individual awards should be submitted to [ASBPastPresident@gmail.com](mailto:ASBPastPresident@gmail.com).** Please visit the ASB website for more details about the nomination materials required. With the exception of the Jim Hay Award, the application deadline for each of these awards is the abstract submission deadline for ISB/ASB 2019.

### **The Borelli Award**

This is the most prestigious honor given by the ASB. The award is named after Giovanni Alfonso Borelli, a mid-17<sup>th</sup> century Professor of Mathematics from Naples, Italy. He is considered by many to be the father of modern biomechanics. Borelli's major novel contribution, the treatise "On the Movement of Animals," puts forth numerous propositions on the movements and displacements of the



## **2018 Award Summary**

### **Borelli Award**

Roger Enoka,  
University of Colorado  
Boulder



## 2018 Award Summary

### Founders' Award

Dan Ferris,  
University of Florida

### Goel Award For Translational Research in Biomechanics

Kenton Kaufman, Mayo  
Clinic

## Past-President, cont.

### Wendy Murray

limbs of man and animals. The award recognizes outstanding career accomplishment and is awarded annually to an investigator who has conducted exemplary research in any area of biomechanics. The awardee attends the Annual Meeting of the ASB to receive the award and to deliver the Borelli lecture. The award consists of an engraved plaque and a check for \$1,500. The Borelli Award is open to all current ASB members, excluding current ASB officers and members of the Borelli and Hay Awards Committees.



Giovanni Borelli  
(1608-1679)

Recent winners of the award are:

2018 Roger Enoka  
2017 Mark Grabiner  
2016 Ted Gross  
2015 Rodger Kram  
2014 Vijay Goel

### Founders' Award

The Founder's Award is given to recognize "scientific accomplishment in biomechanics and excellence in mentoring" and is open to investigators of all disciplines within ASB. This is a new award that was presented in 2017 for the first time. Nominees must be current ASB members who are between 5 and 20 years of their terminal degrees. Self-nomination is acceptable and the nomination packet requires three components: (1) letter of support that highlights research and mentoring activities of nominee, (2) full CV with research accomplishments and mentoring activities highlighted, and (3) up to 5 papers. The awardee must attend the Annual Meeting of the ASB in order to receive the award. The award consists of an engraved plaque and a check for \$1,000.

The first two recipients of the award were:

2018 Dan Ferris  
2017 Rick Neptune

### Goel Award for Translational Research in Biomechanics

The Goel Award, newly created in 2016, recognizes outstanding accomplishments in translational biomechanics research, entrepreneurship, and societal benefit. The award is named after Dr. Vijay Goel, the Borelli Award winner in 2014, and is given annually to an ASB member. The Award was initiated by Dr. Goel's loving and devoted family. The Goel Award selection is based on originality, quality and depth of the candidate's research, and the commercial and societal benefits emanating from this research. This research is expected to have a biomechanical element. The winning candidate will have demonstrated the translational nature of his or her work from basic research to the enhancement of human health and well-being. The awardee must attend the Annual Meeting of the ASB in order to receive the award. The award consists of an engraved plaque and a check for \$1,000.

The first two recipients of the award were:

2018 Kenton Kaufman  
2017 Trey Cisco

# Past-President, cont.

Wendy Murray

## Young Scientist Pre-Doctoral Award

This award recognizes early achievements by a promising young scientist prior to the award of their PhD. Selection is based upon the scientific quality of the submitted materials. The awardee must attend the annual ASB meeting to present their work in a special awards session. It is expected that the awardee will submit a full-length manuscript for publication in the Journal of Biomechanics. The award consists of an engraved plaque, a check for \$500, and a waiver of conference fees for the annual ASB meeting.

Recent winners of the award are:

2018 Jack Martin  
2017 Colin Smith  
2016 Emily Lawrence  
2015 Rachel Lenhart  
2014 Laura Chernak Slane

## Young Scientist Post-Doctoral Award

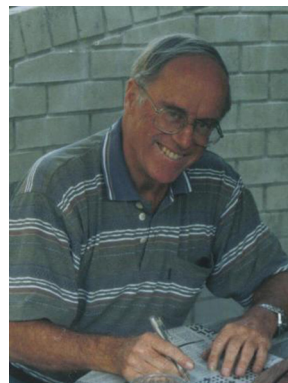
This award recognizes early achievements by a promising young scientist who is within five years of receiving their PhD. Selection is based upon the scientific quality of the submitted material. The awardee must attend the annual ASB meeting to present their work in a special awards session. It is expected that the awardee will submit a full-length manuscript for publication in the Journal of Biomechanics. The award consists of an engraved plaque, a check for \$500, and a waiver of conference fees for the annual ASB meeting.

Recent winners of the award are:

2018 Jennifer Nichols  
2017 Karl Zelik  
2016 Katherine Steele  
2015 Jason Franz  
2014 Amber Rath Stern

## The Jim Hay Memorial Award

In 2019, the Hay Committee has elected to award The Jim Hay Memorial Award for Research in Sports and Exercise Biomechanics posthumously, to honor [Paavo Komi](#). The award was established in 2004 through the support of the Hay family and additional donors to recognize research in the area of sports and exercise science biomechanics. Jim Hay (1936-2002) was a longtime faculty member at the University of Iowa, one of the original Founders of ASB, and the third and fourth President of the Society. The Jim Hay Memorial Award recognizes originality, quality, and depth of biomechanics research that address fundamental research questions relevant to extraordinary demands imposed in sport and exercise. Since 2017, a standing committee has both evaluated member-submitted nominations for the Jim Hay Award and identified candidates with exceptional contributions to the field of sports biomechanics. Two talks, provided by Bob Gregor and Taija Finni, will cover Professor Komi's professional and scientific contributions to the field of biomechanics. There will also be time



## 2018 Award Summary

### Young Scientist Pre-Doctoral

Jack Martin,  
University of Wisconsin-Madison

### Young Scientist Post-Doctoral Award

Jennifer Nichols,  
University of Florida

### Jim Hay Memorial Award (2018)

Rodger Kram,  
University of Colorado Boulder

### Jim Hay Memorial Award (2019)

Paavo Komi,  
University of Colorado Boulder





## 2018 Award Summary

### Clinical Biomechanics Award

Kevin N. Dibbern, et. al  
University of Iowa

### Journal of Biomechanics Award

Mary A. Bucklin, et. al  
Northwestern University

### President's Award

Kayla Grotelueschen, et. al,  
Valparaiso University

### Junior Faculty Research Award

Natalie Holt  
Northern Arizona University

### Research Travel Grant

Jackie Morgan  
Virginia Commonwealth University

### ASB Fellows

Elizabeth Hsiao-Wecksler,  
University of Illinois

Andrew Karduna, University of Oregon

Maury Nussbaum, Virginia Polytechnic Institute and State University

## Past-President, cont.

### Wendy Murray

for the audience to share stories in the 1 hour session that is planned by the ISB/ASB 2019 joint program committee.

Recent winners of the award are:

2018 Rodger Kram

2017 Rick Lieber

2016 Jill McNitt-Gray

2015 Timothy Hewett

2014 Fred Yeadon

### Awards that honor the quality of a given research project:

#### Clinical Biomechanics Award

This award recognizes outstanding new biomechanics research targeting a contemporary clinical problem, and is sponsored by Elsevier Science, Ltd., publishers of Clinical Biomechanics. The awardee will be expected to present their work at the meeting, and submit their work for publication in Clinical Biomechanics. Finalists for the award will be selected from submitted abstracts for ISB/ASB 2019 and will follow the [ISB regulations](#). ASB members wishing to apply for Clinical Biomechanics award must also fill out this [questionnaire](#) and email it to the ISB Awards Officer, [Prof Catherine Disselhorst-Klug](#), alerting her that they want their submitted abstract considered for the award, and that they have considered and agree to all of the requirements. The Clinical Biomechanics Awards committee will be comprised of representatives from both the ISB and ASB boards.

#### Journal of Biomechanics Award

This award recognizes substantive and conceptually novel mechanics approaches explaining how biological systems function. It is sponsored by Elsevier Science, Ltd., publishers of the Journal of Biomechanics. The awardee will be expected to present their work at the ASB annual meeting, and submit their work for publication in the Journal of Biomechanics. The award will be selected from submitted abstracts for the ISB/ASB 2019. Finalists for the Journal of Biomechanics Award will be selected from the pool of abstracts scored most highly in review.

#### President's Award

This award recognizes outstanding research presented as a poster at the annual meeting. The award is judged solely by the President. All posters are eligible.

### Competitive grant awards:

#### ASB Junior Faculty Research Award (JFRA)

The purpose of this program is to support early career ASB regular members pursuing biomechanics research by offering a source of research funding. The grant is distributed on a competitive basis and is intended to offset the costs directly associated with conducting research. Funds may be used for small equipment items, materials and supplies, and animal or participant costs, but cannot be used to support salaries, graduate student stipends or hourly pay, or indirect costs of research. ASB anticipates awarding one grant of \$5,000 for a one-year period beginning in July each year. The deadline for submission of ASB Junior Faculty

# Past-President, cont.

Wendy Murray

Award applications is February 28<sup>th</sup> of each year. **Application materials should be submitted to [ASBPastPresident@gmail.com](mailto:ASBPastPresident@gmail.com).**

Recent winners of the award are:

2018 Natalie Holt

2017 Jacqueline Cole

2016 Jeremy Crenshaw

## Student Travel Awards

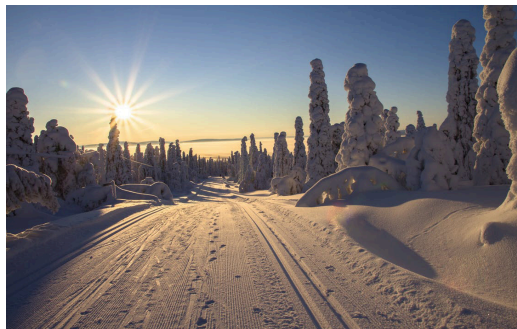
These are offered to help students attend the ASB annual meeting. There are a number of these awards and each winner receives an award of \$250. The application deadline is the abstract submission deadline for ISB/ASB 2019. If more than one application is received by students of the same advisor, only one will be funded. Please refer to the awards section of the ASB [website](#) for detailed instructions of how to apply.

## Research Travel Grant

These awards are offered to foster collaborative research and interaction among scientists by helping to offset the cost of travel to a host institution. All ASB regular members are eligible to apply. Travel and lodging costs are covered. Budget requests may be up to \$1,000. Matching funds from the candidate's or host's institution are desirable, but not required. The deadline is March 1.

## ASB Fellows

The other major duty of the Past-President is working with the ASB Fellows and Executive Board to elect new Fellows. In 2011, ASB created the status of Fellow to recognize professional achievement and service of the top members of the Society and to encourage continued service to the Society in leadership roles. To be considered for Fellow status, an applicant must have been a member of the Society in good standing for at least ten years, have a consistent and significant record of service to and participation in ASB, is expected to remain active in ASB, and has made significant research and scientific contributions in biomechanics. The applicant must have strong support from two nominating ASB Fellows (preferred) or one Fellow and a senior research scientist (with prior approval by the Past-President). Nominations for induction for the upcoming year are due well before the Winter Newsletter goes to press (November 15). If you are interested in being nominated as an ASB Fellow for 2020, you should discuss your interest with an [ASB Fellow](#)!



## 2018 Award Summary

### Student Travel Awards

- Andrew Vigotsky, Northwestern University
- Lauren Sepp, Colorado School of Mines
- Craig Kage, University of Minnesota
- Christopher Curran, East Carolina University
- Jessica Aviles, Virginia Tech
- Rachel Tatarski, The Ohio State University
- Kate Spitzley, University of Oregon
- Chelsea Rugel, Northwestern University
- Russel Johnson, University of Massachusetts, Amherst
- Katie Farina, Appalachian State University
- Ke Song, Washington University-St. Louis
- Lauren Schroeder, University of Tennessee
- Gustavo Sandri Heidner, East Carolina University
- Marissa Papp, University of Southern California
- Joshua Leonardis, University of Michigan
- Anthony Anderson, University of Washington
- Angel Gonzalez, University of Nebraska-Omaha

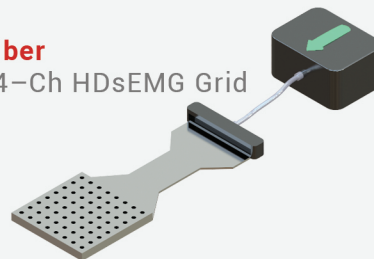
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4-Ch EMG Mini-Grid



**Trigno™ Maize**  
16-Ch HDsEMG Grid



**Tiber**  
64-Ch HDsEMG Grid



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**TRIGNO™  
QUATTRO**

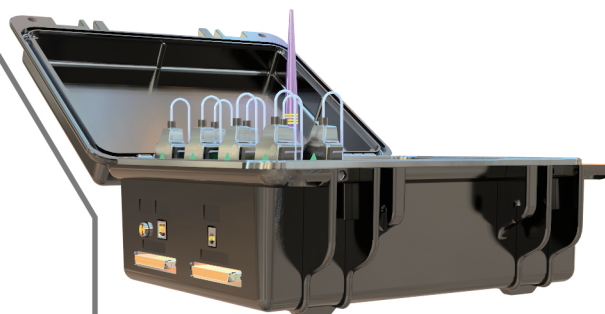
4-CH  
EMG + IMU

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**TIBER**

64-CH  
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42<sup>nd</sup> Annual Meeting of the American Society of Biomechanics  
by Photographer Jing-Sheng Li and Editorial Assistant Cara Lewis









# Communications Committee

Tarang Jain



Greetings from Flagstaff, Arizona! Flagstaff is Arizona's winter wonderland and right now as the forests are blanketed with snow and attracting winter enthusiasts from all over the world. I was in India just couple of weeks ago and was enjoying a much warmer sun and promoting ASB and Biomechanics Day at different institutions that I visited. There was a lot of enthusiasm and interest from the students and clinicians alike and I hope to see some institutions in India taking lead in hosting their first ever National Biomechanics Day!

Over my first few months as Communications Chair, I am learning and benefiting from the excellent work done by the outgoing communications chair Robert Catena. Communication is at the heart of any successful organization and over the past few years, ASB has made continuous efforts to reach out to its membership in many ways. In addition to the website, we have a strong presence on the social media where members can stay up-to-date more easily with all the current/upcoming events. We have a healthy following on our [facebook](#) and [twitter](#) platforms and will be happy to promote the biomechanics related events. We just do not want to stop our outreach work here and welcome other communications activities or ideas in an effort to make our society better informed and connected. If you have ideas or suggestions on how ASB can better serve its members, please get in touch with me.

Continuing with our previous endeavors to keep the website fresh, we are still soliciting interesting research related pictures from our members to post on the scrolling photo banner of the ASB [webpage](#). So, if you are willing to share some research related pictures and give your research some free press, let me know. Here is what we need:

- An eye-catching biomechanics figure/picture.
- The pictures need to be 980 wide x 310 tall size to properly display in the ASB banner, so you can make it this size or we can crop the picture as long as the original meets the minimal dimensions of 980 wide x 310 tall.
- A 1-sentence caption of the picture, with the name of the author as well as the laboratory and/or school affiliation.
- See the current ASB homepage for examples.
- No previously published pictures.
- No recognizable faces.
- Make sure the PI has given consent to posting the picture on the ASB website.

Lastly, we have been hard at work updating a few parts of the ASB website:

- We are updating [future ASB conference](#) locations and dates as we become aware of them. This will allow you to better plan your future travels to conferences.
- [ASB regional meetings](#) in the Spring have been announced and will be soon updated on the webpage. These are great opportunities for a student-focused conference. Please inform your students.
- A [Member Obituaries](#) page is on our website. If you become aware of other



**Find us on Facebook or Follow us on Twitter**

**Facebook: [American\\_Society\\_of\\_Biomechanics](#)**

**Twitter: [@Am-SocBiomech](#)**





## Communications Committee, cont.

### Tarang Jain

ASB members passing, please let us know so that we can honor them.

- We have updated our [Videos and Presentations](#) page to post past award and keynote presentations. We also have spots of tutorial videos (science or career related) and if you want to contribute, please contact me so that we can discuss the possible contribution.

Thank you all for your support to ASB. As always, I am appreciative of people behind the scenes who have helped to run the things smoothly and look forward to work with all of you to make ASB further stronger.



## INTRODUCING STRIDEWAY...

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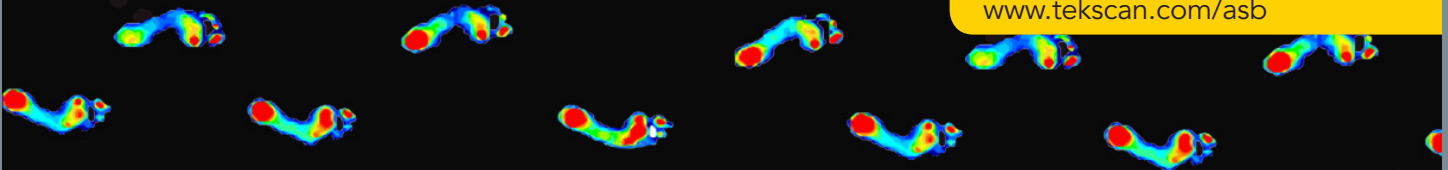
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[www.tekscan.com/asb](http://www.tekscan.com/asb)





Biomechanics: The Breakthrough Science of the 21<sup>st</sup> Century

**NBD 2019 REGISTRATION IS NOW OPEN:**

[Click Here To Register](#)

Dear Friends in the American Society of Biomechanics,

National Biomechanics Day (NBD) increases awareness of Biomechanics among high school students around the world and through this increased awareness seeks to greatly expand the many valuable contributions Biomechanics makes to human society. These contributions include substantial impacts in medicine and rehabilitation, human performance, man-machine interfaces such as prosthetics, and many, many more fields. Through our effort, energy, and enthusiasm we will make Biomechanics the breakthrough science of the 21<sup>st</sup> century.

**The Breakthrough Science of the 21<sup>st</sup> Century!** We can do this through a unified and enthusiastic celebration of Biomechanics through NBD 2019. The true wonder of National Biomechanics Day is that we all celebrate Biomechanics together. NBD provides a platform for us to unite into one synchronized, worldwide celebration of Biomechanics. It is a blast.

NBD has grown from a U.S. based initiative in 2016 to a worldwide Biomechanics movement in 2019 and we have introduced Biomechanics to **20,000+** young people and 800+ teachers since our inception. Laboratories throughout the U.S., Australia, New Zealand, Canada, Brazil, Malaysia, England, Portugal, Chile, Germany, and a host of other countries provided hands-on, interactive Biomechanics demonstrations producing tremendous excitement about Biomechanics among high school students and teachers, as documented by the photographs on Instagram: [NBD on Instagram](#)

Our official date for **NBD 2019 is April 10** although of course you can hold your NBD on any spring date that works best for you. We had over 450 registered Biomechanists in 2018. Let's double that this year...no, triple that...no, Order-of-Magnitude that in 2019.

Please register for NBD 2019 and please be sure to have all your Lab partners (faculty, students, employees) who contribute to your NBD register too!

[Click Here To Register](#)

We provide many helpful materials and suggestions about creating your NBD [HERE](#).

Thank you very much and with great enthusiasm for your participation,

Paul DeVita, Ph.D.

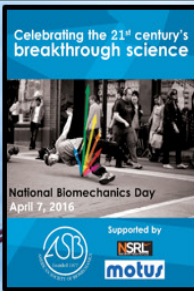
PS. If you are not yet convinced about NBD, please take a moment to watch this NBD 2018 video from the Shirley Ryan Ability Lab, [Click Here](#) (handkerchief required).

**Ready...Register!!!!**

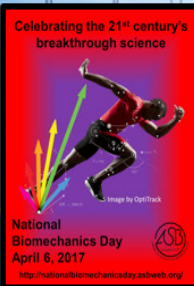
National Biomechanics Day: Where Science Meets Fun

Click: [NBD Website](#) [NBD on Twitter](#) [NBD on Facebook](#) [NBD on Instagram](#)

2016



2017



2018



# National Biomechanics Day: The Bridge Between Biomechanics and Society

2019

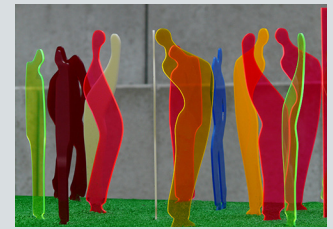
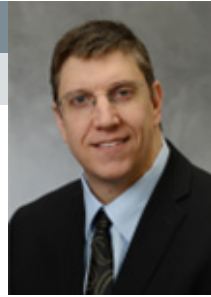




# Program Chair

**Daniel Ferris**

2019 is finally here!! I am happy to be the ASB Program Chair for the joint meeting with the International Society of Biomechanics this year. The meeting will be held in Calgary, Alberta Canada, from July 31 to August 4. Calgary is a fabulous place to host a conference, with amazing scenery and outstanding opportunities for local excursions. Walter Herzog and the rest of the local Calgary meeting organizers have been working very hard to prepare an outstanding meeting for us. The conference will happen at the Telus Convention Center, located in downtown Calgary. The convention center has 122,000 sq. ft. of dedicated meeting space, with 47,000 sq. ft. for the exhibition displays.



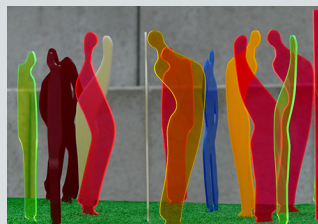
**2019 Annual  
meeting [website](#)**



Because this year's meeting is a joint conference with the International Society of Biomechanics, we are using a special one-page abstract format that is due on January 31, 2019, by 11:59:59 pm in the local time zone of the abstract submitter. There will not be an extension to the deadline. The abstract template can be downloaded and the abstract can be submitted through the meeting [website](#). We want to have a good representation of ASB members at the meeting. Take advantage of this opportunity to interact with other biomechanists from around the world. Abstracts can be submitted under a wide range of topics, covering a diverse range of biomechanics research areas. The program will include multiple parallel sessions, with targeted symposia, poster sessions, tutorials, and a host of student-centered programming. We will have an Advancing Women in Biomechanics event along with a Diversity luncheon.

The conference is very fortunate to have two fantastic keynote lectures to go along with the ISB and ASB award lectures. The first keynote speaker is Prof. Heike Vallery from the Technical University Delft (The Netherlands), an expert in rehabilitation biomechanics and robotics. The second keynote lecture will be given by Prof. Kim Bennell from the University of Melbourne (Australia), whose research focuses on non-surgical management of hip and knee osteoarthritis. The ISB Wartenweiler Lecture will be given by Prof. Hugh Herr from the Massachusetts Institute of Technology (USA), Director of the Center for Extreme Bionics. The ISB Muybridge Award winner for 2019 is Prof. Ralph Müller from ETH





## 2019 Annual meeting [website](#)

# Program Chair

**Daniel Ferris**

Zürich (Switzerland), and he will give a lecture on musculoskeletal tissue biomechanics. The last lecturer that is currently known for the meeting will be Prof. Joseph Hamill from the University of Massachusetts at Amherst (USA), as he will be giving the ISB President's Lecture. The Borelli and other ASB Award winners will be announced at a later date.

There will be two award sessions to fit in all the ASB and ISB award winners. These will include ASB young scientist pre-doctoral and post-doctoral finalists' presentations, and a joint ISB/ASB Clinical Biomechanics award winner. There will be a separate symposium for the Jim Hay Memorial Award. The Goel Award and Founder's Award winners will have their presentations during the morning invited presentation sessions. We have also decided to keep the new student award competitions that combine a rapid podium presentation and poster presentation. The best graduate student abstracts submitted for this competition will be selected for these special sessions. There will also be an undergraduate student poster competition for those students opting in when they submit their abstracts. The finalists will be selected based on abstract reviews, and there will be a panel of judges to select the winners. If you are interested in serving on the student award judging panels, please [email](#) me.

Abstract submission is now open and abstracts will be accepted until 11:59:59 pm local time on January 31, 2019. Meeting information is available through the conference [website](#). The link for abstract submission may be found on the meeting website. See you in Calgary!



## ISB / ASB 2019

**Calgary, Canada  
July 31 - August 4**



Important Dates	Opens	Closes
Abstract Submission	November 1, 2018	January 31, 2019
Early Registration	November 1, 2018	May 15, 2019
Regular Registration	May 16, 2019	July 31, 2019
Meeting	July 31, 2019	August 4, 2019

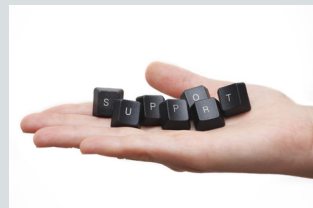
# President-elect

**Michelle Sabick**

Greetings ASB Members! It has been a pleasure rotating back onto the Executive Board this year, after a three-year hiatus. I previously served on the Board for six years as Newsletter Editor and three years Chair of the Communications Committee. During that time, I served under eleven different ASB Presidents, and I saw a lot of growth and change in the Society. Overall Society membership has increased in recent years and the meetings have continued to grow in attendance. For example, the first meeting I attended probably had approximately 300 attendees, and meetings today are often attracting closer to 1,000 participants. This has caused us to reconsider the types of meeting venues we choose, and has forced us to look at how best to adapt to our growth.

Most Presidents-Elect spend much of the year focused on identifying locations and soliciting proposals for upcoming annual meeting sites. However, due to the hard work and great success of my predecessors, we have meeting venues confirmed through 2022, including meetings in Calgary (2019), Atlanta (2020), Knoxville (2021) and Ottawa (2022). Therefore, this year I will take on a slightly different role and support President Brian Umberger and Past-President Wendy Murray in the strategic planning efforts. I will also be reaching out to the ASB Fellows to develop a bit more structure to facilitate communication between the Fellows and the Executive Board. This effort is an element of what I call “professionalization of the Society”, where we focus on continuous improvement in our organization and its functioning as we grow.

I wish all of you a fantastic start to the new year and I look forward to seeing you in Calgary.



## ASB Corporate Sponsors 2018

Corporate sponsor levels are aimed at encouraging affiliation by commercial organizations that market products which are used by the biomechanics research community, or companies that are otherwise engaged in activities that fall within the Society's general interest areas. Companies wishing to become a Corporate Member are encouraged to contact [Tamara Reid](#), Treasurer.

The ASB Executive Board is pleased to recognize the following corporate sponsors:

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**JUNE 30 – JULY 4, 2019**  
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**Edinburgh International  
Conference Centre**

**WWW.ISPGR.ORG**



**2019 Annual  
meeting [website](#)**

## Diversity Committee

**Robin Queen**



The Diversity Committee was very pleased with the engagement and participation in all of the 2018 annual meeting events. We had an opportunity to work with a great group of kids from the Rochester Boys and Girls Club during the Annual Meeting Diversity Outreach Event. Please take a look at the [pictures](#) from ASB 2018 to see how fun and engaging this experience was both for ASB members as well as the Boys and Girls Club kids. The ASB Women in Science (WIS) event was an interactive cocktail that focused on practical negotiation skills. All attendees were asked to step out of their comfort zone and practice negotiating for something that they really wanted. This experience led to some wonderful large and small group discussions throughout the rest of the 2018 Annual Meeting. The focus of the Diversity Breakfast was on avenues for career success in academics and industry. We had a great panel of presenters and a very engaging conversation. The Diversity Committee was able to award 15 Diversity Travel awards for students and faculty to attend and present his/her work during the 2018 annual meeting.

It has been a busy year for the Diversity Committee since the annual meeting in Rochester. We have begun planning for the 2019 ASB/ISB meeting in Calgary. During the 2019 meeting there will be some changes as we will not be having a diversity outreach event. However, the Diversity Committee is working with members of the ISB to organize the Women in Science event, which this year you will see on the ASB/ISB schedule as Advancing Women in Biomechanics. This event will again be an interactive cocktail. Everyone is welcome and encouraged to register for and attend the Advancing Women in Biomechanics event on August 3. The focus of the event this year will engage participants in active learning about how to have difficult conversations. There will be opportunities for smaller group discussions and practice as well as providing feedback to the larger group about what the smaller groups found to be helpful suggestions for starting and responding to difficult conversations. The Diversity event will occur during the lunch on August 2. Please make sure to register for this event so that we can ensure that we have a large enough space for everyone to attend. Lunch will be provided as part of your conference registration, so you will just pick up your lunch and join us as we discuss mentorship. We will explore some methods for developing sustained mentoring relationships and identify challenging in both building and sustaining these relationships.

Through the hard work of this committee, which includes: [Matt McCullough](#) (NC A&T University), [Joan Bechtold](#) (University of Minnesota), [Susan Dieckrager](#) (Novel Electronics), [Becky Zifchock](#) (West Point), and [Ajit Chaudhari](#) (The Ohio State University), we have been able to plan for an exciting 2019 annual meeting. We hope that everyone will consider joining us for at least one of the Diversity events during the 2019 annual meeting. Please feel free to reach out to me or any member of the committee at any time with suggestions or concerns during the year as well as throughout the 2019 Annual Meeting.



# Umbrellas are for Tourists

William Ledoux

Hello ASB members! This is the latest the newsletter has been delivered during my tenure—sometimes life just happens. Apologies to the Executive Board members and the membership at large for not getting this out in a timely fashion (i.e., before the 1/31/19 deadlines tied to ISB/ASB 2019). A few programming highlights—at the request of some board members, we've streamlined the newsletter this time (26 pages, down from 46 in the 2017 winter issue). However, we've still included articles highlighting this summer's meeting in Austin (see the Student Rep article and the Program Chair update). It sounds like we'll be able to retain many of the events that make the ASB meeting special, while taking advantage of the larger stage that the ISB affords. As described in these pages, the ASB is doing well both from a membership standpoint and financially, and we have our annual meeting locations planned out through 2022. There are also a record six sponsored ASB regional meetings this spring. Additionally, over the last few years, the ASB has added several new major awards and changed one long standing one—details are provided by the Past-President. Furthermore, NBD is growing and thriving, and the ASB has played a foundational role. In short, it is a good time for our society! See you this summer in Calgary!



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### NEW RELEASE

## Simpleware™ O-2018.12

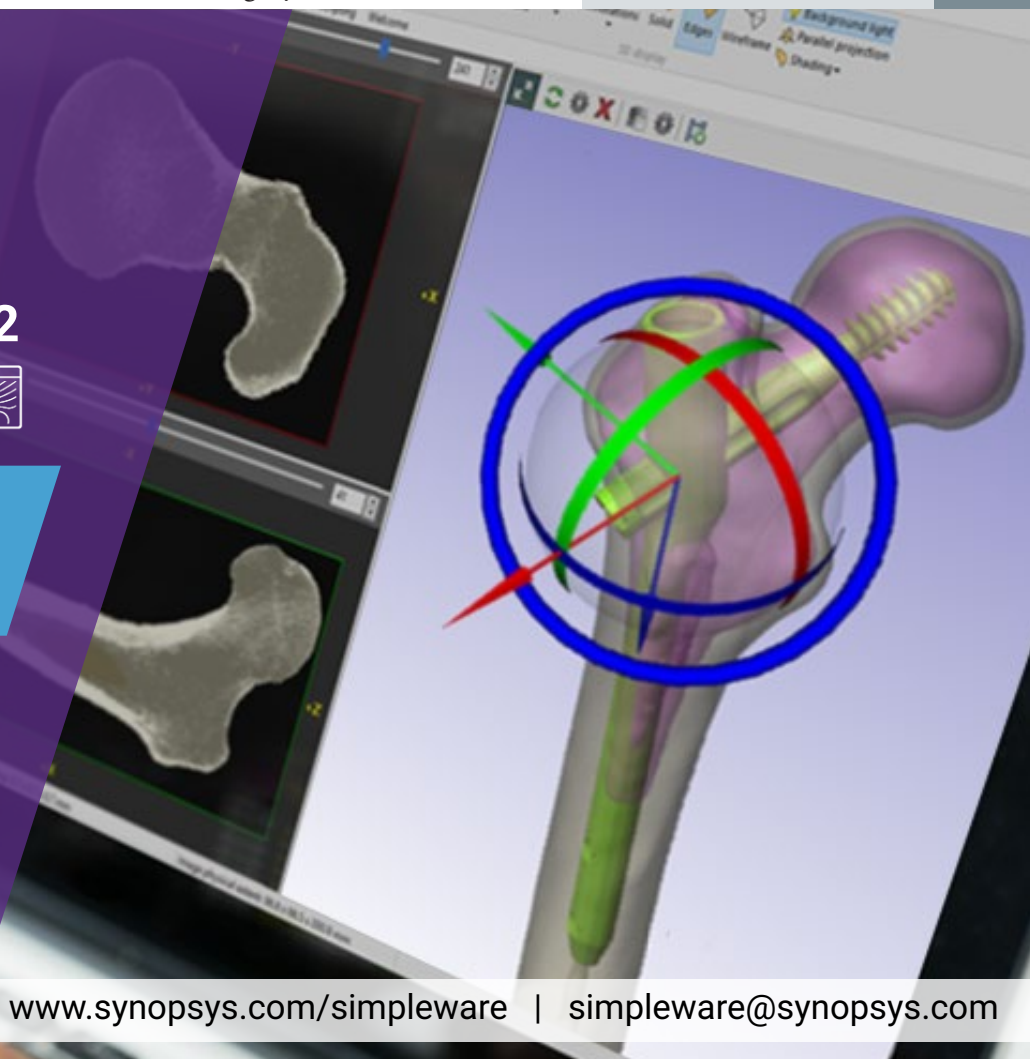


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# Events Calendar

**Dan Gales**



## NOTE:

For other listings of international conferences, please visit either the ISB's [web-site](#) or [Biomch-L](#).

### **Orthopaedic Research Society Annual Meeting 2019**

February 2-5, 2019

Austin, Texas

Abstract deadline: past

[www.ors.org/2019annualmeeting](http://www.ors.org/2019annualmeeting)

### **2019 Gait and Clinical Movement Analysis Society**

March 26-29, 2019

Frisco, Texas

Abstract Deadline: past

[www.gcmas.org/2019\\_annual\\_conference\\_information](http://www.gcmas.org/2019_annual_conference_information)

### **25<sup>th</sup> Congress of the European Society of Biomechanics**

July 7-10, 2019

Vienna, Austria

Abstract Deadline: January 31, 2019

[esbiomech.org/esb-meetings/esb-congress](http://esbiomech.org/esb-meetings/esb-congress)

### **37<sup>th</sup> Annual International Society of Biomechanics in Sports**

July 22-26, 2019

Oxford, Ohio

Abstract deadline: February 1, 2019

[isbs.org/conferences/29-isbs2019](http://isbs.org/conferences/29-isbs2019)

### **4<sup>th</sup> Rocky Mountain Muscle Symposium**

July 27-29, 2019

Canmore, Alberta, Canada

Abstract Deadline: May 15, 2019

[rmms-2019.com](http://rmms-2019.com)

### **14<sup>th</sup> biennial Footwear Biomechanics Symposium**

July 28-30, 2019

Kananaskis, Alberta, Canada

Abstract Deadline: February 15, 2019

[fbs2019.footwearbiomechanics.org](http://fbs2019.footwearbiomechanics.org)

### **TGCS 17<sup>th</sup> International Symposium on Computer Simulation in Biomechanics**

July 28-30, 2019

Canmore, Alberta, Canada

Abstract Deadline: February 15, 2019

[isbweb.org/~tgcs/iscsb-2019/canmore.html](http://isbweb.org/~tgcs/iscsb-2019/canmore.html)

### **XXVII Congress of the International Society of Biomechanics and American Society of Biomechanics 43rd Annual Conference**

July 31-August 4, 2019,

Calgary, Canada

Abstract deadline: January 31, 2019

[www.isb2019.com](http://www.isb2019.com)

### **6<sup>th</sup> International Conference on Movement and Computing**

October 10-12, 2019

Tempe, Arizona

Abstract deadline: February 27, 2019

[tinyurl.com/ybvuep99](http://tinyurl.com/ybvuep99)

### **Biomedical Engineering Society 2019 Annual Meeting**

October 16-19, 2019

Philadelphia, Pennsylvania

Abstract Deadline: May 1, 2019

[www.bmes.org/content.](http://www.bmes.org/content.asp?contentid=528)

[asp?contentid=528](http://www.bmes.org/content.asp?contentid=528)

### **Human Factors and Ergonomics Society 63<sup>rd</sup> International Annual Meeting**

October 28-November 1, 2019

Seattle, Washington

Abstract deadline: tba

[www.hfes2019.org](http://www.hfes2019.org)



# ISB / ASB 2019

July 31 - August 4  
Calgary, Canada

Telus Convention Centre



[isb2019.com](http://isb2019.com)



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