American Society of Biomechanics





www.asbweb.org In this issue

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Newsletter

Volume: 32 - Number: 2, December 2019

From the President **Michelle Sabick**

Happy Holidays ASB Members! This is my first chance to communicate with the entire Society since I officially took the helm in Calgary last August. The first few months of my presidency were consumed with addressing some issues of inappropriate behavior that came up at the ISB/ASB meeting in Calgary. Af-



ter much communication and negotiation, a combined statement from the ISB, ASB, and ISB/ASB 2019 Calgary Organizing Committee came out in October. The statement condemned these negative interactions and outlined a process by which we propose to address such issues more holistically in the future. Both ASB and ISB have committed to developing codes of conduct for their societies and implementing them before our next meetings. We are also hoping to coordinate the efforts of the two societies.

For ASB, these commitments mean that Robin Queen and the rest of the Diversity Committee are working diligently to research best practices, talk with experts, and draft a comprehensive code of conduct to be enacted for our conference this August in Atlanta. The executive board will be discussing the draft at our midyear meeting, and hope to have the draft code of conduct out for feedback and a vote later this spring. It is our sincere hope that developing an ASB Code of Conduct will help to ensure everyone feels welcome in our society and that, should issues arise, there are clear procedures for addressing them.

In addition to that massive project, the Executive Board has been hard at work on several other projects meant to improve how we function as a society. These range from improving our data storage and web site security, to piloting student chapters of ASB. Many of these new initiatives should be transparent to members, but will enhance the robustness and stability of the society, and its ability to serve the growing number and diversity of our members. I look forward to providing an update on more of those efforts in the June newsletter.

I wish everyone a peaceful and joyful holiday season.



Student's Corner Andrew Vigotsky

Greetings, ASB! This year's ASB/ISB meeting in Calgary went extraordinarily well. The student events were very well received, in large part due to the efforts of Melissa Boswell, the past-ISB Student Representative. As expected, the student mentoring event was larger than usual; we matched over 160 students with





With 2020 quickly approaching (or already here), we will soon be accepting nominations for the next ASB Student Representative. Details regarding the position and nomination can be found on the ABS website, and I will provide more information, including deadlines for nomination, in an email blast. If you have questions regarding the position, please send me an email.

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 research grant. Applications for the GIA are due on January 15, 2020. Second, Student Travel Awards provide \$250 for those who will be presenting at the annual meeting; please submit Student Travel Award applications to the ASB Awards Chair on or before March 13, 2020 (same as abstract submission deadline). For further details, please see the ASB website. We look forward to receiving your applications!



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.

Past-President Brian Umberger

I hope this issue of the newsletter finds you well, and looking forward to all of the exciting programming the ASB has planned for 2020. The statement "the only constant in life is change," attributed to the Greek philosopher Heraclitus of Ephesus, may be one of the most well-worn quotes around, but



it is certainly true on the ASB Executive Board. Not only do most positions on the Board turn over every 1-3 years, but this year we had the much less common addition of a new Board position in the form of an Awards Chairperson.

A long-standing responsibility of the Past-President has been overseeing the awards conferred by the Society. This responsibility dates from a time when the ASB awards consisted of the Borelli Award and a single Young Scientist Award (later split into pre-doctoral and post-doctoral awards). In the present day, the ASB has a robust and diverse awards program that supports our members and recognizes them for their achievements at all career stages. Administering the awards program had come to dominate the work of the Past-President, as recent Past-Presidents can attest. This limited the ability of the Past-Presidents to focus on their other responsibilities, and to follow through on initiatives begun as President-Elect. The other responsibilities of the Past-Presidents also limited further development of the awards programs. The time had come for a position dedicated to managing and developing the ASB awards.

At the executive board meeting in August 2019, the board approved the creation of an Awards Chairperson, on a two-year trial basis, and shortly thereafter appointed Dr. Melissa Morrow from the Mayo Clinic as the first Awards Chair of the ASB. If this experiment is successful, which I fully expect it to be, then in 2021 a change of the bylaws will be required to make the Awards Chair a permanent member of the executive board. The board greatly appreciates Dr. Morrow agreeing to serve as the first Awards Chair and help shape this new position and the possibilities it creates. See her first column elsewhere in this issue describing the ASB awards, including our newest award honoring, in memoriam, the legacy of one of our founding members, Dr. Jean Landa Pytel.

In other news, we are finalizing the strategic planning initiative that the Society has pursued over the past year. This final stage has primarily involved implementing feedback received from a wide array of members during the late summer and early fall. We have also paid attention to how success of the specific strategies will be assessed, which presents some particular challenges in an organization such as the ASB with the aforementioned regular turnover in leadership positions. The final stage of the planning process will be a vote by the full membership. The engagement and enthusiasm of our members during this process has reminded me what I love so much about the ASB, and I look forward to seeing us move from the planning stage to the doing stage, and achieving the considerable potential this unique society possesses.



Secretary/Membership Katherine Saul

I hope all our members had a wonderful 2019 and I wish everyone well for 2020. We are finishing the first year of the new membership portal, which has allowed us to add new features for the membership and the executive board. For members, you can pay dues, buy journal subscriptions, donate to award funds,

and search the membership directory. All your membership information is available in the portal, making it easy to find when sponsoring new members or applying for awards. Your **member number** is located under **My Member Details**. Your current **member status** (student or regular membership and membership expiration date) can be found under **My Member Status**. In addition, you can always update your email account for logging in to the portal, or add a second login (for example, if you have administrative support), by visiting **Update my Login Information**. We also have a **Volunteer** function where you can indicate your interest in providing service to the society through committee membership or contributions to the annual meeting. Executive board members or committee chairs use these lists to identify potential candidates to fill these roles, according to the requirements of the positions. We open a new volunteer list each calendar year, so please update your selections for 2020.

We also have new functions that support the society by archiving our member roles and contributions. We now have the ability to record in the database those of you who have generously contributed your time on committees, reviewing abstracts, and offering tutorials at the annual meetings. We also are able to keep records of fellow status and executive board roles. All records are updated annually at the end of the calendar year and accessible only as needed to appropriate members of the executive board. These new archives will make for a stronger institutional memory to help new executive board members and will make it easier to identify potential candidates for new roles in the society from our active membership.

We had 862 active members in 2019. Of our active members, 537 are regular members, 313 are student members, and 12 are emeritus. Membership dues for 2020 are now open. For primary disciplines, our membership breakdown is: 51 Biological Sciences, 386 Engineering and Applied Physics, 44 Ergonomics and Human Factors, 220 Exercise and Sports Science, 160 Health Sciences. To help our diversity initiatives, we collect demographic information regarding the society membership composition, reported only in aggregate. By sex: 521 Man, 326 Woman, 14 Don't wish to answer. By ethnicity: 47 Hispanic, 767 Not Hispanic or Latino, 46 Don't wish to answer. By race: 3 American Indian or Alaska Native, 129 Asian, 27 African American/black, 3 Native Hawaiian or Pacific Islander, 661 White, 16 Other, 38 Don't wish to answer. By disability status: 11 Yes, 820 No, 22 Don't wish to answer.

Please feel free to reach out if you have any feedback on the membership portal or if I can assist you in anyway. A Happy New Year to all!







Editorial Board

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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:

DGales@lockhaven.edu

ASB Newsletter



Treasurer Jill Higginson

Greetings!

ASB Executive Board 2019-20

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It was wonderful to see so many of you at the combined meeting of the International Society of Biomechanics and American Society of Biomechanics in Calgary in August 2019. Many

thanks to the Calgary team for hosting a fun-filled information-packed event. Due to profit sharing arrangements for this meeting, ASB received more than \$33,000 US. Note: Proceeds from the 2018 Annual ASB Meeting (Rochester, MN) of \$39,000 have also been deposited since the last update.

National Biomechanics Day has declared independence! Paul DeVita filed the federal paperwork to become a tax exempt, non-profit, 501(c)(3) organization and NBD was incorporated in North Carolina in September 2019 under the name The Biomechanics Initiative. In October, the \$26,818 balance of NBD funds were transferred to TBI. Long live National Biomechanics Day!

As you know, we use ASB funds to support regional conferences, numerous awards, and competitive grants. In 2019, we supported 5 grant-in-aid awards (\$2000), 21 travel awards (\$250), 16 diversity awards (\$250), plus honoraria for the Borelli Award, Jim Hay Memorial Award, Goel Award for Translational Research in Biomechanics, Founders' Award, and Young Scientist Pre-Doctoral and Post-Doctoral Awards. We also provided starter funds (\$20,000) to the ASB 2020 conference hosts to be repaid once the conference registration process is underway. We anticipate expenses for the upcoming mid-year meeting of the Executive Board at the conference venue, and have recurring charges for PayPal, website security, membership dashboard, and so on. Nevertheless, our budget is strong and sitting comfortably at nearly \$190,000. Plus, our long-term investments have experienced an uptick and are currently valued at \$224,000. I sincerely appreciate the input of Brenda Bowen (Peace of Mind Accounting) and Susan Bowie (RFH CPAs) who keep us running smoothly!

I am enjoying my new role as ASB Treasurer, and am incredibly grateful to the guidance, organization, and patience provided by Tammy Bush during this transition period. Please contact me if you have budget questions! See you in Atlanta!

"I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

- Isaac Newton

Education Committee

It is my great pleasure to serve on the ASB Executive Board as the Education Committee Chair for 2019-2022, after serving on Kim Bigelow's committee for the past three years. We also welcomed in a new class to the Education Committee, which is even bigger than before! I'm excited to continue pursuing the





ASB Executive Board 2019-20

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great education initiatives our past Education Committee Chairs have initiated, as well as expanding our reach to help ASB members become better teachers and more well versed in pedagogy research.

Since my tenure has begun, we have been busy reviewing applications for regional meetings, as ASB supports several each year. This year, I'm excited to say that the Executive Board decided to support more regional meetings than ever before! Regional meetings are a great place for students to present their work, practice for the national meeting, and for all to meet local researchers in a more intimate setting. This year, the ASB is supporting eight regional meetings (see below).

In the coming months the Education Committee will be busy with our other primary functions: reviewing Graduate Student Grant-in-Aid applications, soliciting and choosing conference tutorial topics, and planning the Teaching Symposium.

ASB Graduate Student Grant-in-Aid (GIA) proposals are due each year on January 15th. GIA awards provide up to \$2,000 for a graduate student research project; several are awarded each year. More information can be found on the ASB website, including formatting and evaluation guidelines. If you missed this year's deadline, mark 1/15/2021 on your calendar now! Both the submitting student and their advisor should have paid their membership dues before January 15 through the member portal. Those who are not yet members (again, student or advisor) should apply early, since membership approval can take 4-6 weeks. Priority is given to students who have been members for at least a year.

With the upcoming conference in Atlanta on our minds, as you think about what to submit, please consider submitting a teaching-related abstract! We will have several podium presentations as part of the Teaching Symposium, and we hope to have many more teaching-related poster presentations as well! If you are hesitant, or just don't know what would make a good teaching presentation, feel free to reach out! Also regarding the conference, if there is a research topic you are itching to share with fellow members, a tutorial may be a great avenue. If you are interested in preparing a tutorial, please let me know.

Finally, I will leave you with a reminder to check out the ASB Teaching Repository for ideas for new classroom projects, labs, demos, and more—and to share your own. Our Teaching Repository continues to grow, but only because of contributions by people like you. Please consider uploading at least one "snippet" this year. The Teaching Repository can be accessed from the ASB website.

In closing, I'd like to thank the previous Education Chair, Kim Bigelow, for her help and guidance, and ask that you welcome the new Education Committee:



ASB Executive Board 2019-20

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Student

edu

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Education Committee, cont.

Allison Altman-Singles, Katie Bieryla, Dustin Bruening, Moataz Eltoukhy, Lex Gidley, Craig Goehler, Michael Harris, Leif Hasselquist, Jacob Hinkel-Lipsker, Amelia Lanier, Anne Martin, Scott Monfort, Sara Myers, Michele Oliver, K. Alex Shorter, Rumit Singh Kakar, Jeremiah Tate, Sara Trager Ridge, Rachel Vitali, Henry Wang, Clint Wutzke, and our student representative Kazandra Rodriguez. I told you it was a big committee this year, thanks to the overwhelming number of ASB members willing to serve!

2020 Mid-South Biomechanics Conf. - Univ. of Memphis, Memphis, TN February 20-21, 2020 Contact Person: Douglas Powell, Max Paquette

2020 Human Movement Science Research Symposium - University of North Carolina at Chapel Hill, Chapel Hill, NC March 27, 2020 Contact Person: Alyssa Evans-Pickett

Rocky Mountain American Society of Biomechanics Regional Meeting - Colorado State University, University of Utah, Estes Park, CO March 27-28, 2020 Contact Person: Neha Lodha

2020 South-Central American Society of Biomechanics Regional Meeting -University of North Texas Health Science Center, Fort Worth, TX March 27-28, 2020 Contact Person: Rita Patterson

2020 Midwest Regional Meeting of the American Society of Biomechanics -Cleveland State University, Cleveland, OH April 9-10, 2020 Contact Person: Brian Davis

American Society of Biomechanics East Coast Meeting - Penn State Berks, Alvernia University, Reading, PA April 17-18, 2020 Contact Person: Joseph Mahoney, Micah Josephson

Great Plains Biomechanics Conf. - Univ. of Nebraska at Omaha, Omaha, NE May 13-14, 2020 Contact Person: Amelia Lanier, Nick Stergiou

Northwest Biomechanics Symposium - Oregon State University, Willamette University, Corvallis, OR May 15-16, 2020 Contact Person: Michael Pavol, Brandi Row Lazzarini

Awards Chair Melissa (Missy) Morrow

This year the ASB Executive Board approved the creation of a new Awards Chairperson position to perform the duties previously held by the ASB Past-President. As the inaugural Awards Chair, it is my honor to serve in this position as the Chair of the Awards Committee and to oversee the awards program of



ASB. It is my goal to continue the strong tradition of fairness, consistency, and transparency of the awards program with an eye towards potential changes in awards management including the timing of award deadlines. I am thankful to Past-Presidents Brian Umberger and Wendy Murray who have provided the support to get me up-to-speed in this new role. I am excited to be of service to ASB as the Awards Chair, and I look forward to working closely with many of you as committee members, nominators, nominees, and award winners. I encourage you all to consider submitting a nomination of a phenomenal Biomechanist in your life to one of our many awards!

As has been done in previous years, this newsletter contribution includes a description of the ASB awards including the newest award: Jean Landa Pytel Award for Diversity Mentorship in Biomechanics.

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 ASBAwards@asbweb.org.

Some of our awards (Borelli, Founders, Goel, Hay, Pytel, 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, and Student Travel Awards), which are summarized in this column and online for member information.

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 Awards Chairperson. All nomination materials for individual awards should be submitted to ASBAwards@asbweb.org. Please visit the ASB website for more details about the nomination materials required. With the exception of the Jim Hay Award (due December 15, 2019) and Jean Landa Pytel Award (due January 15, 2020), the application deadline for each of these awards is the abstract submission deadline for ASB 2020 (March 13, 2020).



2019 Award Summary

Borelli Award Irene S. Davis, Harvard Medical School

Jim Hay Memorial Award

Paavo Komi (in memoriam), University of Jyvaskyla, Finland



2019 Award Summary

Founders' Award Silvia Salinas Blemker, University of Virginia

Goel Award For Translational Research in Biomechanics Scott Delp, Stanford University

Awards Chair, cont. Melissa (Missy) Morrow

The Borelli Award

This is the most prestigious honor given by the ASB. The award is named after Giovanni Alfonso Borelli, a mid-17th 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 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.

Recent winners of the award are: 2019 Irene Davis 2018 Roger Enoka 2017 Mark Grabiner 2016 Ted Gross

The Jim Hay Memorial Award

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 nomi-



nations for the Jim Hay Award and identified candidates with exceptional contributions to the field of sports biomechanics. Recent winners of the award are:

2019 Paavo Komi (in memorium) 2018 Rodger Kram 2017 Rick Lieber 2016 Jill McNitt-Gray

Founders' Award

The Founders' 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

Awards Chair, cont. Melissa (Missy) Morrow

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 three recipients of the award were: 2019 Sylvia Blemker 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 three recipients of the award were: 2019 Scott Delp 2018 Kenton Kaufman 2017 Trey Cisco

Jean Landa Pytel Award for Diversity Mentorship in Biomechanics

The Pytel award, newly created in 2019, recognizes the long-term impact of mentoring on both the careers of individual scientists, including women and individuals from other traditionally under-represented backgrounds in ASB, and the ultimate betterment of our society as a whole. The award is named after Dr. Jean Landa Pytel (1947-2018), one of the founding members of the ASB, who actively advocated for women and encouraged others to find their own path in biomechanics and become involved in ASB leadership. Her career-long efforts helped to increase women's participation in ASB membership, biomechanics research, and leadership to the levels we see today. Jean was a role model for mentorship that encouraged active citizenship in ASB, supported multiple pathways toward research excellence, created opportunities in leadership, and welcomed and valued diversity and inclusion in the society. Nominees should be ASB members who emulate the qualities of Jean Landa Pytel, have made a demonstrable difference in the career paths of their mentees, and, by doing so, have contributed to the advancement of the ASB's Diversity Mission. Candidates must be nominated by other active members of ASB in good standing who have been mentored by the nominee.



2019 Award Summary

Young Scientist Pre-Doctoral Erika Pliner, University of Pittsburgh

Young Scientist Post-Doctoral Award

Wouter Hoogkamer, University of Colorado



2019 Award Summary

Clinical Biomechanics Award

Stephan Bodkin and Joseph Hart, University of Virginia

Journal of Biomechanics Award

Olivia M. G. Aguiar, et. al Simon Fraser University

President's Award

Peter Fino and Martina Mancini Oregon Health & Science University

Junior Faculty Research Award

Robert Catena, Washington State University

Research Travel Grant

Jessica Goetz, University of Iowa

ASB Fellows

Chris Hass, University of Florida

Li-Shan Chou, Iowa State University

Awards Chair, cont. Melissa (Missy) Morrow

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: 2019 Erika Pliner 2018 Jack Martin 2017 Colin Smith 2016 Emily Lawrence

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: 2019 Woouter Hoogkamer 2018 Jennifer Nichols 2017 Karl Zelik 2016 Katherine Steele

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 ASB 2020. Finalists for the Clinical Biomechanics Award will be selected from the pool of abstracts scored most highly in review.

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 ASB 2020. Finalists for the Journal of Biomechanics Award will be selected from the pool of abstracts scored most highly in review.

Awards Chair, cont. Melissa (Missy) Morrow

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 Award applications is February 28th of each year. Application materials should be submitted to the ASB Awards Chair at ASBAwards@asbweb.org.

Recent winners of the award are: 2019 Robert Catena 2018 Natalie Holt 2017 Jacqueline Cole 2016 Jeremy Crenshaw

Travel Awards

Student travel awards 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 ASB 2020. 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.

Diversity Travel awards are offered to support attendance of individuals from diverse backgrounds at the annual meeting. These awards are intended to offset the cost of attendance and a portion of the costs of travel to the annual meeting. Questions and applications can be submitted electronically to the ASB Diversity Committee Chair by May 1, 2020. An evaluation committee selected by the ASB Diversity Committee Chair will review applications, with announcements of awards expected by June 1, 2020.

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.



2019 Award Summary

Student Travel Awards

• Emma Baillargeon Northwestern University Kaylyn Bell Rensselaer Polytechnic Institute Matthew Berno North Carolina State University Lynda Brady University of Washington Katie Conway University of North Carolina Paul Craig **Methodist University** Danny Davis Penn State University • Evan Day University of Oregon Sujata Khandare Penn State University Dean Molinaro Georgia Institute of Technology Constantine Nicolozakes Northwestern University Kayla Pariser University of Delaware Chase Rock Georgia Institute of Technology Bryan Schlink University of Florida Jordyn Schroeder Georgia Institute of Technoloav Jan Stenum University of Mass, Amherst James Tracy University of Delaware



Student Travel Awards

Kyra Twohy
University of Dayton
Katherine Wagner
Colorado School of Mines
Ross Wilkinson
University of Queensland

ASB Diversity Travel Awards

- The Ohio State University
- University of California, Davis
- University of Michigan 2 awards
- Georgia Institute of Technology – 2 awards
- University of Massachusetts, Amherst
- California State University
 Fullerton
- Virginia Tech 2 Awards
- University of North Carolina at Chapel Hill and North Carolina State University
- North Carolina Agricultural and Technical State University

AMTI Diversity Travel Awards

- George Mason University
- The Ohio State University –
- 3 awards
- University of Wisconsin-Milwaukee

Awards Chair, cont. Melissa (Missy) Morrow

ASB Fellows

The Past-President will continue to oversee the election of ASB Fellows. The Past-President works closely with the ASB Fellows and Executive Board throughout the Fellows nomination and election process. 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). To be considered for the following year, the nomination letter must be received by the Past-President after the conclusion of the Annual Meeting and before November 15th.



"It is the tension between creativity and skepticism that has produced the stunning and unexpected findings of science."

- Carl Sagan



XXVII Congress of the International Society of Biomechanics and 43rd Annual Meeting of the American Society of Biomechanics by Photographer Brad Saville and Editorial Assistant Cara Lewis





Meeting Chair Young-Hui Chang

It's not too early to start thinking about ASB 2020! Planning for the 44th annual ASB conference is well underway and we are thrilled to host it in the city that the Georgia Institute of Technology calls home, Atlanta, GA. The meeting will be held at the Westin Peachtree Plaza and Atlanta Convention Center on August 4-7, 2020. Details can be found on the meeting website.





2020 Annual meeting website

Don't call it 'HOT-lanta' lest you be labelled a tourist! To locals, this Peach State is known as 'the ATL', or simply 'the A'. One of the South's most vibrant and cosmopolitan cities, Atlanta is full of great places to visit, eat, drink, and explore.

Founded as a railway transportation hub, Atlanta is also one of the most easily accessed cities in the U.S. Three major interstate highways converge in Atlanta: I-20, I-75, and I-85. And, I-285 circles Atlanta if you just want to do laps. If flying, Hartsfield-Jackson International airport is the world's busiest airport and can efficiently get you in and on your way. 80% of the U.S. population is said to be within a 2-hour direct flight of Atlanta. For those of you living in Hawaii, sorry, but... you live in Hawaii—you'll get no pity from us. Hartsfield–Jackson International Airport is located 12 miles south of the conference site. The airport's domestic terminal is served by the Metropolitan Atlanta Rapid Transit Authority's (MARTA) Red/Gold rail line. Basically, for ~\$3, any train heading out of the airport will take you one-way to within 300 ft of the conference site in about 20 min. Of course, if you're a 'big wig', you could spend ~\$30 for a taxi or rideshare.

The Westin hotel's Peachtree Ballroom will provide a grandiose setting for the opening reception, keynote, and plenary sessions. Attached to the Westin hotel, we have two floors of the Atlanta Convention Center (~110k sq. ft) reserved for conference meals, breaks, as well as poster and podium sessions. We expect to hold at least five parallel tracks, including podium talks, thematic posters, and symposium sessions along with accommodating 500-600 posters. We are expecting ~1000 attendees at this year's conference and should have the space to comfortably accommodate everyone that wants to come and talk about



biomechanics. Workshops and tours of state-of-the-art laboratories will take place on the Georgia Tech campus, which is a ~10-minute drive/shuttle ride away. All conference sessions will be held in rooms that are fully accessible by elevator, escalator, and stairs. Lactation rooms will also be available. If childcare assistance is needed, please contact me directly and we will do our best to assist you.

The conference banquet is included with registration and will be held in the amazing Ocean's Ballroom of the Georgia Aquarium, which is a short walk from the convention center. This is a private function space with huge pic-





2020 Annual meeting website

Twitter: @ ASB2020_ATL

Meeting Chair, cont. Young-Hui Chang

ture windows facing into the Whale Shark tank and the Beluga Whale tank. So make sure you bring your selfie sticks as you will want to get a picture of yourself with Paul Devita as he makes faces at the Belugas. Discounted tickets for ASB goers will be available for purchase if you would like the option of going into the public aquarium exhibits in addition to the private banquet space.

The Westin Peachtree Plaza Hotel is located in downtown Atlanta (explore the 360 degree map) in the middle of the convention district and next to Centennial Olympic Park. The iconic hotel is 73 stories tall and its circular shape ensures that all guest rooms have magnificent views of the surrounding city and attractions. We have negotiated a discounted rate for ASB attendees at very reasonable rates. An additional block of rooms has been secured at the Westin at a special rate just for student attendees, which will require student status verification and room assignment during registration. The proximity of these guest rooms will maximize convenience and minimize travel time to the conference. You will also be within easy walking distance to CNN world headquarters, World of Coke museum, College Football Hall of Fame, and the National Center for Civil & Human Rights.

There are dozens of dining options located within walking distance of the convention center. If you are willing to drive a little, there is an insane amount of dining options for every price point and palate. We have created an interactive map of nearby places to eat and drink to assist you so you do not go insane. Social events at the conference will take advantage of local offerings in Atlanta, and will be posted on the conference website and on the conference app (CrowdCompass). Also, please follow us on Twitter (@ASB2020_ATL) for rapid updates.

Sponsor and exhibitor registration is NOW OPEN. Priority for choosing booth space is based on when sponsors register; please register as early as possible to get your ideal booth location. Abstract submission information and attendee registration will be available in early 2020 on the website.

On behalf of the Georgia Tech conference organizing committee (Aaron Young, Boris Prilutsky, Greg Sawicki, Lena Ting, Owen Beck, Young-Hui Chang), we look forward to seeing you in the ATL next August! Mmm...Peach!





Registration for NBD 2020 is open: Click Here

Dear Friends and Colleagues in the American Society of Biomechanics,

National Biomechanics Day will celebrate Biomechanics in its unique and effervescent manner...



Chok Chuen Leang and friends at the National Sports Institute of Malaysia demonstrating... you guessed it... NBD effervescence

...for the **FIFTH CONSECUTIVE** year in April 2020. We have reached **over 29,000** high school students the past four years and for 2020 alone we will **breakthrough with 30,000 students** learning about Biomechanics all around the world. How is this possible? Effortlessly through your continued support and love for all things Biomechanics. We truly hope this is the year that EVERYONE in Biomechanics joins our initiative to increase the impact of Biomechanics and enable Biomechanics to help more people.

NBD 2020 regstration is HERE

For more info: contact Paul DeVita, <u>HERE</u> & see our website: <u>HERE</u>

National Biomechanics Day, Where Science Meets Fun and The Breakthrough Science of the 21st Century

The official NBD 2020 date is April 8 but you can hold your NBD on another date that best suits you. We can supply many materials to help you create an NBD event...which can be as simple as:

invite high school students to your lab, show them cool Biomechanics, and tell them a bit about National Biomechanics Day.





Point Loma Nazarene University



Rush University Medical Center: Biomechanics of Climbing Walls



Some great links: NBD Guidelines: <u>HERE</u> NBD 2019 Summary: <u>HERE</u> NBD 2019 Videos: <u>HERE</u>. They are really fantastic! No kidding!!

Thank you very much and we truly hope you can participate in NBD 2020. It will be a blast,

Paul

Paul DeVita, Ph.D.

This year, EVERYONE!!! How can you resist?

Program Chair Karen Troy

It's just starting to be winter here, but we are already looking forward to the 2020 Annual Meeting! I've been working with a fantastic Program Committee to build a program that is bursting with high quality science, diversity of thought and experience, and inclusive of all types of biomechanics research in a





supportive and friendly atmosphere. Here's a brief preview of some highlights:

- Fantastic keynotes covering topics such as animal locomotion (Dr. David Hu, Georgia Tech, author of *How to walk on water and climb up walls: Animal movement and the robots of the future*) and adaptive sports biomechanics (Dr. Alena Grabowski, University of Colorado, expert on biomechanics and sports performance in amputees).
- Enhanced poster sessions that include a plenary session to highlight the top-scoring posters.
- A "3-minute thesis" competition for graduate students. (This will be instead of the graduate student poster competitions we have had in the recent past).
- Professional development sessions aimed at a variety of career levels and paths.

There's much, much more, including all of the usual Awards (e.g., Borelli and Hay), scientific sessions, and networking events. A few last things:

- If you have ideas for abstract-based session themes, would like to see sessions on particular topics, or have interest in judging the 3-minute thesis competition, please email.
- Stay tuned for the Call for Abstracts and a Call for Volunteer Reviewers, which will be posted at the conference website and via monthly email blast.

• Abstracts will be a 1-page format that is similar to what we used for the ISB/ASB combined meeting last year (in 2019). The abstract format change is intended to emphasize significance and impact of the research. Abstract templates will be available when the Call for Abstracts is released.

Here's the key information about abstracts and conference logistics:

- Conference Dates: Tuesday, August 4 Friday, August 7, 2020
- Location: Atlanta, GA (hosted by Georgia Tech)
- Abstract Submission: Abstracts will be due on Friday, March 13 at 5 PM EDT.
- For the abstract submission, we are not kidding! We will NOT be moving the deadline back. This is for real. Plus, then you get to enjoy your weekend.





Find us on Facebook or Follow us on Twitter

Facebook: American_Society_of_ Biomechanics

Twitter: @Am-SocBiomech

Communications Committee

Winter greetings from Flagstaff! I hope you had strong finish to the fall semester and looking forward to the spring semester. By now, you have received the call for membership renewal; if you haven't renewed, the new year is a great time to do so.



Over the next year, our goal is to focus our attention on up-

dating the grad programs website and further improve rest of the ASB website. We regularly get over 4,000 hits on the ASB site every month and updating the most frequently visited webpages will help students and members find the best opportunities for their particular interests. ASB Twitter feed is going strong. You can stay up-to-date more easily with all the events if you stay connected with us through social media. If you have something going on that you want to us to advertise, let me know. We are currently at nearly 5,000 followers!

The plans for the upcoming ASB conference in Atlanta are in full swing. I am sure that like me, you all are looking forward to all of the exciting programming the ASB2020. Be sure to visit the conference site and follow the ASB2020 twitter feed to get updates about the ASB Annual Conference. It's also a great time to mark your calendar for National Biomechanics Day 2020 (April 8) and register yourself for NBD2020. Make sure to register and start planning now!

Regarding our website, we have a few ongoing needs and activities:

• We still need interesting research related pictures from our members to post on the scrolling photo banner of the ASB homepage. Having new photos keeps our website fresh, and providing your photos gets your research some free press. If you have some interesting photos and are willing to share, let me know. 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. Include a 1-sentence caption, with the name of the author plus affiliation. See the current ASB homepage for examples. No previously published pictures, no recognizable faces, and make sure the PI has given consent to posting the picture on the ASB website.

• A Member Obituaries page is on our website. If you become of aware of other ASB members passing, please let us know so that we can honor them.

ASB regional meetings in the Spring have been announced. These are great opportunities for a student-focused conference. Please inform your students.
Many ASB grant and award applications will be coming due in the Spring. These due dates should all be up on our google calendar.

In addition, several people have helped through their service on the Communications Committee. Robert Catena, past ASB communication chair, has continued contributing to our social media outreach and providing input on the ASB website. I need to thank the past and current ASB executive committee members for their interest in keeping the website updated and provide help and input with the website and its associated content. Finally, many ASB members have sent me messages when they have found errors or omissions on the site. All of these contributions are greatly appreciated. The more you share your thoughts and opinions, the more we can remain strong in our communications with the membership!

President-elect Nicholas Stergiou

I learned the wonderful news that I became your President-Elect while I was on a sabbatical in Europe. This is why I missed the Calgary meeting which I heard that it was a tremendous success. Being away from an ASB meeting is like missing, at least for me, Thanksgiving dinner with your family. Thus, I am so much



looking forward to see all of you in Atlanta next summer. To interact with my scientific family, my colleagues and friends, but also to relax and enjoy the fellow-ship of every and each one of you.

During my sabbatical, I was able to complete the writing of a book called Advice for the Novice Investigator. I have heard that we plan to organize in Atlanta sessions on mentoring and interviewing. I plan to share with you what I have included in my book regarding these topics and hopefully contribute to the development of our young members. Having a society where especially young members can seek advice, mentorship, and direction is one of my goals and I have several ideas for future implementation.

Being back on the Executive Board this year is a wonderful experience as I observe that the Society is indeed in great hands. So much has happened since I was the Education Chair and then your Meeting Chair for the Omaha conference. I presently just absorb and observe the activity which is truly buzzing but also take care whatever assignments come towards my direction from Brian and Michelle. However, slowly I plan to start with my own initiatives in terms of (a) Biomechanics diversity and outreach efforts, (b) Biomechanics as a context for increasing awareness of, interest in, and capability to participate in STEM education, and (c) Biomechanics education. I am honored to be your President-Elect and I can't wait for Atlanta.





ASB Corporate Sponsors 2020

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 Jill Higginson, Treasurer.

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

Partner Member Tekscan





2020 Annual meeting website

Diversity Committee

The Diversity Committee was very pleased with the engagement and participation in all the 2019 ASB/ISB annual meeting events from this past summer. The Advancing Women in Biomechanics event was a major success with close to 200 participants from the ASB and ISB communities. This amazing night



was a joint event between the two societies and was facilitated by Chris Hass and Julie Steele with a focus on implicit bias. This event would not have been possible without the leadership and work of Kirsty McDonald who was instrumental in the planning and implementation of the event. Kirsty will be continuing these efforts along with her colleagues at future ISB events. We also thank all ASB and ISB members who served as table facilitators as well as Julie and Chris for the marvelous job they did in facilitating some difficult conversations. To all of those who attended the event, thank you for stepping outside your comfort zone and providing a safe and welcoming environment for these conversations. This experience led to some wonderful large and small group discussions throughout the rest of the 2019 meeting. We want to thank Novel Electronics for their ongoing support for these events as well as thanking the Department of Biomedical Engineering and Mechanics at Virginia Tech, the ASB and the ISB who also provided support for the 2019 event. The focus of the Diversity Lunch was developing effective mentoring relationships in diverse and non-diverse work environments. I want to thank Ajit Chaudhari and Susan Diekrager for their work on this event and a special thanks to Ajit for facilitating the conversations during this event. The Diversity Committee was able to award 17 Diversity Travel awards through funding from the ASB and support from AMTI for students and faculty to attend and present work during the 2019 meeting in Calgary.

It has been a busy year for the Diversity Committee since the Calgary meeting. We have been working in collaboration with the executive board to develop the ASB Code of Conduct. We hope to have a draft version ready for comment by the membership in early 2020 so please keep an eye out for that in the email blasts. We have begun planning for the 2020 meeting in Atlanta. During the 2020 meeting the diversity outreach event will return so please plan to come a little early to the meeting to join us for what will be an unforgettable time with the ASB community and the kids of Atlanta. We are planning to have Women in Science and Diversity events at the meeting. Please know that everyone is welcome to attend both events. We will be changing registration for these events for the 2020 meeting. We plan to have a separate registration for both of these events which will be sent out through the email blasts about 3 months, hopefully in May, ahead of the annual meeting in order to get a more accurate picture of who will be able to attend these events. Final details for both events are still being finalized with the program committee including dates and locations. The Women's event will expand on the discussions from the Calgary meeting with a focus on negotiation, while the Diversity event will explore systemic barriers to advancement.

Detailed information about the ASB Diversity Travel awards will be provided in a future email update and posted on the ASB website. The deadline for submission will be May 1, 2020 with a notice of awards send on June 1, 2020. We are planning to award 15 Diversity Travel Awards for the 2020 annual meeting which are in addition to the ASB student travel awards.

Umbrellas are for Tourists William Ledoux

Greetings ASB members! It seems the longer I serve as editor, the shorter my articles get, which is probably not a bad thing... Sometimes I have a lot to say, and other times the layout works out such that there is no room. The highlights of this newsletter include the standard updates from the various officers on

the executive board, as well as Cara Lewis' collage of photographs from last year's ISB/ASB meeting. I like to highlight one article in particular—the first article from Missy Morrow, our new Awards Chair, which reorganizes and highlights the many award opportunities available through the ASB.

Diversity Committee, cont. Robin Queen

We are excited to announce two new student representative positions that have been added to the diversity committee since the 2019 meeting. Alyssa Olivas from the University of Texas at El Paso has joined us at the ASB student representative to the committee and Jordyn Schroeder from Georgia Tech has joined as the 2020 annual meeting student representative. Through the hard work of this committee, which also includes: Matt McCullough (NC A&T University), Joan Bechtold (University of Minnesota), Susan Diekrager (Novel Electronics), Becky Zifchock (West Point), and Ajit Chaudhari (The Ohio State University), we have begun planning for an exciting 2020 annual meeting. We hope that everyone will consider joining us for at least one of the Diversity events. Please feel free to reach out to me or any committee member with suggestions or concerns.







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Events Calendar

2021 National Association for Kinesiology in Higher Education Annual Conference January 6-9, 2021 New Orleans, Louisiana, USA Abstract deadline: TBD *NAKHE.org*

Orthopaedic Research Society 2020 Annual Meeting February 8-11, 2020 Phoenix, Arizona, USA Abstract deadline: closed ORS.org

American Physical Therapy Association Combined Sections Meeting February 12-15, 2020 Denver, Colorado, USA Abstract deadline: closed APTACSM2020

5th Annual National Biomechanics Day April 8, 2020 *NBD.org*

Society for Modeling and Simulation International May 19-21, 2020 Fairfax, Virginia, USA Abstract deadline: 1/22/20 SpringSim'20

American College of Sports Medicine 2020 May 26-30, 2020 San Francisco, California, USA Abstract deadline: closed ACSM2020 Gait and Clinical Movement Analysis Society June 1-5, 2020 West Chester, Pennsylvania, USA Abstract deadline: closed *GCMAS.org*



Summer Biomechanics, Bioengineering, and Biotransport Conference June 17-20, 2020 Vail, Colorado, USA Abstract deadline: past *sb3c.org*

Sixteenth International Symposium on the 3-D Analysis of Human Movement July 12-15, 2020 Ames, Iowa, USA Abstract deadline: TBA *3-D Analysis of Human Movement*

38th Annual International Society of Biomechanics in Sports July 21-25, 2020 Liverpool, UK Abstract deadline: January 31, 2020 *ISBS.org*

American Society of Biomechanics 44th Annual Conference August 4, 2020 Atlanta, Georgia, USA Abstract deadline: 3/13/20 *ASB.org*

Human Factors and Ergonomics Society International Annual Meeting October 5-9, 2020 Chicago, Illinois, USA Abstract deadline: 2/24/20 *HFES.org*

NOTE:

For other listings of international conferences, please visit either the ISB's website or Biomch-L.







ASB 2020

August 4 - 7 Atlanta, Georgia

Westin Peachtree Plaza Hotel







