Merican Society of Biomechanics

Founded 1977



www.asbweb.org

In this issue

	page
From the President	1
Student's Corner	2
Secretary/Membership	4
Treasurer	5
Education Committee	6
ASB Fellows Forum	8
Past-President	10
Scenes from the 40 th ASB	14
Communications	16
Nat. Biomechanics Day	18
Program Chair	21
Meeting Chairs	22
Diversity Committee	24
President-elect	26
Umbrellas are for Tourist	s 28
Events Calendar	29

Newsletter

Volume: 29 - Number: 2, December 2016

From the President Chris Hass

The saying "Whenever you can, count" is attributed to Sir Francis Galton, nineteenth-century scientist and polymath (I'll let you look it up—I had to). These words are particularly relevant to us within the American Society of Biomechanics. Our ability to quantitatively analyze behavior and phenomena provides important insights into disease mechanisms, injury pre-



vention, biological function, performance enhancement, and rehabilitation and surgical outcomes. Because of you, ASB counts. As the leading society for biomechanics, ASB is committed to supporting the biomechanics community, developing a diverse and collaborative environment, and promoting research endeavors that impact our understanding of the biological world and provide solutions to the important questions within our fields. But we must not too narrowly focus the perspective in our quest for solutions. In Eric Weiner's book, The Geography of Genius, he discusses the nature of an elegant solution, stating that the solution is not merely correct but that it is streamlined and pleasant to the mind. Invariably, elegant solutions come from finding connections. As part of our mission, we must actively articulate the value of biomechanical research within all areas of ASB and partner with other societies to further the development of biomechanics as a basic and applied science. ASB has both a proven track record and a growing need to make connections in order to ensure that biomechanics always counts.

¹⁸ I would like to share with you some examples of how our society is making connections and having an impact.

- This year ASB contributed to the NIH Research Plan on Rehabilitation, and this input is evident in the agency's final document.
- This month ASB joined other prestigious societies in the Food and Drug Administration's Network of Experts.
- ASB continues to build connections through collaborations with peer societies such as partnering with the Osteoarthritis Research Society International on symposium submissions.

• ASB disseminates members' research in the areas of prosthetics and orthotics to the American Orthotic and Prosthetic Association annual meeting.

• ASB Past-President Paul DeVita is taking National Biomechanics Day (April 6, 2017) international with new connections through sponsorship from the International Society of Biomechanics (ISB) and contributors from New Zealand,

Continued on page 3...

Student's Corner Katie Knaus

Hello from Virginia, where although winter has arrived, I want to take a look back at the summer and the great student events at the annual conference. The 40th ASB meeting held in Raleigh, NC this past August had a record number of students attending. The Student Mentoring Program paired 136 stu-





ASB Involvement

dents with mentors in academia and industry. Thank you to all of the students who actively participated in this program, and I hope you found your mentorship experience to be rewarding. A special thank you goes to all of the mentors because without you this program would not be possible. This program will continue at the 2017 meeting—look to sign up to participate during conference registration.

The meeting in Raleigh was filled with excellent opportunities for students to network, including the Women in Science and Diversity Breakfasts and the Student Career Round Table Event. The Career Round Table Event was a huge success with over 120 students engaging in discussions with different topics led by biomechanics experts in industry, academia, research, and more. Based on positive feedback from participants, we will be sure to offer a similar opportunity for students to network and receive career advice in an informal setting at the 2017 meeting. Please let me know if you have feedback or suggestions for career topics.

The Student Night Out provided a chance for over 200 students with conference stress to shake it off and enjoy drinks and desserts in the private courtyard behind the Sitti Restaurant. Students gathered to casually network, reunite with old lab mates, and meet new friends. Thanks to everyone who came out and made this event a great success. Other student conference events included the Student Welcome, where students received advice for making the most of the conference and a lunchtime presentation on Applying to Grad School. Congratulations to Amy Lenz for a job well done with these amazing events for students.

I am looking forward to the 41st Annual Meeting this August in Boulder, CO! The Student Advisory Committee and I are already hard at work planning exciting student events for the meeting. This committee's goal is to promote student interests in ASB, with initiatives to support student networking, professional development, and biomechanics education. Your input is essential so that I know places where we can continue to improve the ASB student experience. Please email me with any thoughts on matters relevant to students in ASB.

Finally, I want to remind students about some of the opportunities available to you as members of ASB. The first is the Graduate Student Grant-In-Aid (GIA), which rewards promising students by supporting their research with a one-year \$2,000 grant. The deadline to apply for this excellent opportunity is January 15th (fast approaching!). Second, Student Travel Awards provide funds to present at the annual meeting. These are due in mid-March, so be sure to apply when you submit your abstracts! I encourage students to go to the ASB website to learn more about these awards and to apply for them. For more details about GIAs and Student Travel Award details, please see the Education Committee and Past President's updates; also feel free to contact me if you have any questions.

If you are interested in becoming more active in the Society (e.g., serving on a committee or chairing an annual meeting session), contact Stacie Ringleb, Secretary/Membership Committee Chair, with your name, address, phone/fax number, email address, and your desired involvement. This information will be included in a database which is periodically updated and distributed to the Executive Board.



Back Copies of the Newsletter

All previous ASB newsletters have been converted into pdf documents and are archived on the ASB website.

Tekscan

From the President, cont.

Australia, and Brazil to name a few.

• Building on our internationalization, the Executive Board is pleased to announce that ASB will be partnering with ISB to convene a joint meeting in Calgary in 2019.

These connections are made possible by the high-quality scientific accomplishments and translational focus of our members, which has led to ASB's rise to preeminence. Now is a perfect time for ASB to have a more prominent role in the scientific community. We must share our advances and discoveries across a variety of communication platforms: high impact journals, coaching and sports magazines, social media (@AmSocBiomech), and the lay press (The Conversation). Our ASB community also should provide a strong voice in support of the benefits of scientific education and the funding for engineering, biomedical and sport research. We should encourage our non-ASB colleagues in BMES, ORS, etc. to attend and present at our meetings. These efforts will expand our own knowledge and research boundaries, while also promoting our work and stature. Our commitment to diversity and inclusivity is a driving force for improving the balance of women and underrepresented minorities in science and engineering. Let us use our collective voice to create professional development, mentoring, and retention programs that can be used as examples by our partner societies. In each of these ways, whenever we can, let's make sure we count.

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Secretary/Membership Stacie Ringleb

We currently have 939 members. 223 members renewed before December 31st, and the winner of our first Amazon.com gift card is Matthew Major from Northwestern University. Everyone who renews their membership by January 15th (including those who renewed by December 31st) will be entered into a drawing for a \$40 Amazon.com gift card, and the final draw-



ing for a \$20 Amazon.com gift card will be for everyone who renews by January 31^{st} .

Looking at the demographics of our members, we have 592 regular, 336 student, and 11 emeritus members. In 2016, we started to collect more information about the demographics of our membership primarily to assist the diversity and inclusion committee to meet their mission. This information is maintained by the chair of the membership committee and reported as aggregate information without names, even when I present the information to members of the ASB executive board. I also use this information to identify potential membership sponsors when an applicant doesn't have any immediate connection with sponsors. The following information is based only on the information that members have updated in the database. The breakdown of our regular and student members in the five disciplines our society has representation in is as follows: 37 biological sciences, 407 in engineering and applied physics, 54 in ergonomics and human factors, 282 in exercise and sport science, and 146 in health sciences. We have 300 female members (160 regular, 140 student), 540 male members (352 regular, 188 student), and one who didn't wish to answer. The ethnicity of our members is under the categories of Hispanic or Latino (139), not Hispanic or Latino (668), and don't wish to answer (58). Our members have reported their race as: American Indian or Alaska Native (5), Asian (112), Black/African American (20), Native Hawaiian or Other Pacific Islander (2), White (684), other (24), and don't wish to answer (78). Finally, we have asked our members to identify if they have a disability. 850 members do not have a disability, 9 members do have a disability, and 65 did not wish to answer.

Looking at these data, it's clear that we should work toward increasing our membership in biological sciences, as well as ergonomics and human factors. Please consider inviting your colleagues in these areas to prepare an abstract for our annual meeting. You can note that in previous meetings, there have been podium sessions on comparative biomechanics (biological sciences) and ergonomics and human factors. Additionally, our society is really lacking in members from underrepresented minorities. I welcome you all to consider how we can increase these numbers, especially in our own laboratories, and to bring discussion points to the diversity breakfast at the annual meeting in Boulder.

Outside of maintaining our membership data and reviewing membership applications, I have spent the past several months extensively researching another option for our membership database. One of the many advantages to this is that conference registration and the membership database would be on the same platform, which will make it easier for you to remember if you renewed your membership for the year when registering for the conference. Please stay tuned for an email update on this in the next month or so.



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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 back page--\$600

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

DGales@lhup.edu



ASB Executive Board 2016-17

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Treasurer Tamara Bush

It has taken a couple of months to transfer all of the accounts over from the prior Treasurer, Karen Troy, but as of this month, all financial accounts have been successfully transferred! Karen is still maintaining a small checking account balance until all of the travel grants and awards have been cashed from the sum-



mer conference. So if you are one of those winners, be sure to cash your check!

We have a new award, the Goel Award! The Goel Family and the University of Toledo Foundation have contributed \$15,000 to start off this award. Currently, these funds are in a savings account, and the expectation is that they will be transferred to our investment house and operate in a similar fashion to the Hay Award. This is the first year for the Goel Award; please see Past President's column for more details on applying.

So, let's turn to our long-term reserve investments—these investments are not spent, but are maintained in case we have a conference year in which the society does not break even, or has an unforeseen event that affects our conference contracts. These funds total around \$192,000 right now, up about \$5,000 since June due to the market increase. Our checking account currently has \$16,000 in it. We paid out \$10,000 in Regional meeting funds and NC had a surplus of \$20,000 from our 40th meeting. Although our last few meetings have ended up with a surplus, this is not the goal and is not always the case. As our meetings grow, so does the financial risk and uncertainty, so our hosts set prices according to the best estimate of the number of conference registrations—and these fluctuate depending on the conference location and the economy. Our checking account balance will increase as our membership renewals occur, and these funds will support our summer awards.

Here are the "big ticket" items that we spent Society dollars on in the spring and summer, including the Regional ASB meetings for \$10,000 and the various society awards, including the Grant-in-Aid Awards, Student Travel Awards, the Borelli and Hay Awards, and the Junior Faculty Research Award, which account for just over \$20,000. This year, we also developed the teaching repository which had \$5,000 in computer programming costs, and we spent \$9,000 for our membership software.

I look forward to serving the society at ASB Treasurer and please contact me if you have questions!



Education Committee

I am excited to have joined the ASB Executive Board as your 2016-2019 Education Committee Chair after having shadowed Cécile Smeesters throughout her final year. As I took on the position we also welcomed a new Education Committee that will serve with me for the next three years. We restructured the com-

mittee a bit which enabled us to get more ASB members involved and form sub-committees that will be able to focus on different initiatives. We hope that throughout the next three years we can grow our efforts and impact—better promoting, supporting, and celebrating all things education with the ASB membership and beyond.

So first, let me welcome our new Education Committee:

- Grants-in-Aid Sub-Committee: Erika Wong-Nelson (Team Lead), Louis DiBerardino, Kaitlin Gallagher, Jessie Huisinga, Missy Thompson, and Alex Shorter
- Teaching Repository Sub-Committee: Patrick Ryder (Team Lead), Lieselle Trinidad, and Scott Monfort
- Promotion of the Scholarship of Teaching and Learning in Biomechanics Sub-Committee: Kim Fournier (Team Lead) and Erin Feser

We also look forward to working with student representative Katie Knaus who will ensure the voice of our student members is represented in all of our subcommittees and efforts.

Each of these sub-committees is overseeing efforts that are important for ASB member to be aware of. Starting with our Grants-in-Aid sub-committee, we want to remind ASB master's students, doctoral students, and faculty mentors of the upcoming ASB Graduate Student Grant-in-Aid deadline of January 15, 2017. The Grant-in-Aid program annually awards approximately five awards of up to \$2,000 each to support promising graduate student research. Please see the ASB website on how to prepare and submit your applications. We would love to see an increase in applications submitted and look forward to pursuing additional sponsorship or ways to support more awards in the future.

Moving on to our Teaching Repository sub-committee...We are especially excited to have seen our efforts to create an ASB-sponsored Teaching Repository realized when the on-line repository went live during the 40th ASB meeting last summer in North Carolina. A special thanks to Cécile Smeesters for her efforts to make the repository happen and to Patrick Ryder and Benjamin Long for all their efforts in development and programming. If you aren't already registered, please do so at http://www.asbweb.org/teachingrepository and check out the educational activities and lessons ("snippets") others have contributed to share with you and inspire you. While you have some downtime between semesters also please consider uploading your own "snippets" that you have tried in the classroom so we all have new ideas to try when our new semesters start in January.





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Education Committee, cont. Kimberly Bigelow

The Promotion of the Scholarship of Teaching and Learning in Biomechanics sub-committee is brand new and excited to help support others wanting to think about their educational approaches from a more scholarly perspective. We hope to eventually roll out a resource site for those who want to start treating (and disseminating) their classroom activities with the same rigor as they treat their laboratory-based work. As a step toward this we strongly encourage ASB members to consider submitting teaching-related abstracts to the ASB meeting this year. While teaching-related abstracts are always invited through the regular abstract submission process, we generally only get one or two. For many of us teaching makes up an important part of our jobs, please let us share together—whether it be highlighting a successful classroom activity or sharing the results of a more formalized pedagogical study.

And finally, another area the committee oversees is the award of ASB Regional Meeting support. We were pleased to be able to award five regional meeting awards, to be held throughout Spring 2017. Check the ASB website to find your closest regional meeting and plan to attend these fun, student-centric events.

13th annual Northwest Biomechanics Symposium – University of Oregon Eugene, Oregon May 19 - 20, 2017 Contact Person: Andy Karduna

Midwest ASB Meeting – Grand Valley State University Allendale, Michigan February 23 - 24th, 2017 Contact Person: Heather Gulgin

2017 South Central American Society of Biomechanics Regional Meeting – Texas

Back Institute Plano, Texas March 31 - April 1, 2017 Contact Person: Ram Haddas

2017 Human Movement Science and Biomechanics Research Symposium – The University of North Carolina at Chapel Hill Chapel Hill, North Carolina Friday, March 31, 2017 Contact Person: Julianna Prim

Rocky Mountain American Society of Biomechanics Regional Meeting – Colorado School of Mines and University of Northern Colorado to be held at YMCA, Estes Park, Colorado April 7 – 8, 2017 Contact Person: Ozkan Celik

I look forward to hearing ideas from our membership on how we can best serve you and your needs. Please email ideas or concerns to me.

ASB Fellows Forum James Ashton-Miller, Ron Zernicke

One sunny day an "invitation" arrived from Paul DeVita (ASB Past-President) and Bil Ledoux (ASB Newsletter Editor) to contribute an inaugural column for the "ASB Fellows Forum". In explaining the function of





the Fellow's Forum, Paul indicated the goal was to "... publish an editorial, essay, or statement by an ASB Fellow(s) in each issue ... (and) you can write about any topic that interests you." Quite the challenge and an open opportunity. Not sure why we were selected to initiate this new feature (unless he is simply starting at each end of the alphabet), but we do appreciate the opportunity to highlight, what in our view, should continue to be a significant focus for "high-performing" organizations such as the ASB, namely: diversity, equity, and inclusion (DE&I).

To put DE&I and high-performing organizations in context, during the past year (as we anticipate is happening at most universities), everyone at the University of Michigan has been involved in the generation and implementation of a university-wide DE&I strategic plan. Coincidental with the recent release of Michigan's new DE&I strategic plan, through our membership in the Orthopaedic Research Society, we received a cogently written letter from the ORS President (Farshid Guilak, Washington University) that emphasized: "Diversity as a Catalyst for Research Success" (October 24, 2016). Dr. Guilak recounted examples from a host of disciplines and businesses to support his thesis that "...diverse teams function more effectively and efficiently than those that are more homogeneous."

Both ASB members and leaders have embraced "diversity and inclusion" as key elements in our organization, as well. For example, in 2013 the ASB Diversity Task Force was commissioned (chaired by Kate Saul, NC State) and in 2014 the ASB Diversity Committee was chartered (chaired by Kristin Zhao, Mayo Clinic). At the 2014 World Congress meeting in Boston, the following Mission Statement was reported and approved by the Executive Board:

"The American Society of Biomechanics is committed to building a professional community that respects and promotes diversity and inclusion. We strive to learn from the diverse perspectives of our membership as we seek common goals for the biomechanics community."

"As a Society, we seek to:

- support career development of all members to achieve their highest potential;
- promote sound science and research Justice;
- promote enhanced engagement in the Society of underrepresented groups through involvement in Society activities and dialogue with leadership; and

• foster respect for diversity and inclusion in our community among our members and leadership"

Here, we re-emphasize the vital importance for DE&I to enhance the creativity and the quality of science in ASB, and suggest a few ideas for creating a more diverse, equitable, and inclusive ASB.

Biomechanics has evolved as a hybrid, multidisciplinary field, and the ASB members have aggregated into five scientific areas: biological sciences, exercise and



ASB Fellows Forum, cont. James Ashton-Miller, Ron Zernicke

sports science, health sciences, ergonomics and human factors, and engineering and applied science. That aggregation of scientific areas, in itself, guarantees a "diversity" of views, methodologies, and perspectives. But we, as ASB members and an organized scholarly society, should take additional steps to build and enhance DE&I. Many approaches exist, but here we offer three ideas for you, as ASB members, to consider.

1. Have ASB formally affiliate with universities with large enrollments of underrepresented groups. Two groups that come to mind are the HBCUs—Historically Black Colleges & Universities (e.g., Spelman College, Howard University, Hampton University, and Morehouse College) and Hispanic Serving Institutions—Hispanic Association of College and Universities (269 US colleges and universities) to encourage inter-university, faculty-led symposia to foster awareness and potential collaborations and alliances. Encourage one-to-one communications between active ASB regular and student members and interested HBCU and HSI undergraduate and graduate students. Organize an ASB sponsorship program for selected undergraduate and graduate students from underrepresented groups to attend and participate in the annual ASB meetings.

2. Develop a NextMember workshop/seminar to precede an ASB annual meeting (or regional meetings), in which hosted early-career faculty, post-doctoral fellows, and experienced PhD students from underrepresented minority are invited to discuss careers and opportunities in biomechanics, across all areas of research and application. This program could be patterned after the successful NextProf, which is designed to give highly qualified participants the opportunity to explore and prepare for a faculty or industry positions in engineering. Along with enhancing the opportunities for one-to-one networking and communication, these rising young scholars will be exposed to the advantages of joining and participating in the ASB as an organization.

3. As the National Biomechanics Day has begun to raise the profile of biomechanics among young people in schools and communities, and STEM Academies (Science, Technology, Engineering & Mathematics) provide students with a supportive and academically rich experiences during their critical transition from high school to college, we urge the ASB to pursue implementation (perhaps via ASB Fellows and/or members of the ASB Diversity Task Force) of ASB-Pipeline Partnerships. These programs would focus on middle schools and high schools in close proximity to universities with active biomechanics programs and have undergraduate and graduate student ambassadors and faculty work closely with staff, students, and families at partner high schools, a number of which have significant underrepresented and/or low socio-economic populations.

We offer these suggestions and ideas as catalysts for an invigorated discussion among our members on the goal of enhancing DE&I. But it is going to take a concerted decades-long effort by us all to welcome and encourage a pool of diverse young talent so that the ASB 2027 and ASB 2037 meetings are considerably more diverse than at present. We encourage members to continue to discuss how the ASB can become more inclusive and supportive of the next generation of diverse and talented young scientists and leaders in biomechanics.

Past-President Paul DeVita

As Past-President, it is my duty to manage the awards process for the upcoming annual meeting. The ASB awards are listed below and details for applying are found on the ASB webpage.



2016 Award

Borelli Award

Jill McNitt-Gray,

University of Washington

Jim Hay Memorial

University of Southern

Summary

Ted Gross,

Award

California

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 application deadline is the abstract submission deadline for the 2017 Annual Meeting. 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: 2016 Ted Gross 2015 Rodger Kram 2014 Vijay Goel 2013 Kenton Kaufman 2012 Carlo DeLuca 2011 Scott Delp

. Giovanni Borelli (1608-1679)

The Jim Hay Memorial Award

The Jim Hay Memorial Award for Research in Sports and Exercise Biomechanics 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. He was world leader in Biomechanics and he advanced the entire field through his significant contributions to our understanding of the biomechanics of many sporting activities. At this time, the ASB Executive Board and Fellows are formulating new and permanent award criteria that will honor Jim's legacy and put focus on the area of exercise and sports biomechanics. There will be a

highlighted exercise and sports biomechanics session during the 2017 ASB meeting. Criteria for this award will be announced on the ASB website this Spring.

Recent winners of the award are: 2016 Jill McNitt-Gray 2015 Timothy Hewett 2014 Fred Yeadon 2013 Glenn Fleisig 2012 Jesus Dapena 2011 Joseph Hamill





2016 Award Summary

Young Scientist Pre-Doctoral

Emily Lawrence, University of Southern California

Young Scientist Post-Doctoral Award

Katherine Steele, University of Washington

Clinical Biomechanics Award

Nathan D'Amico, et al., Georgia Southern University, Campbell University, and University of Prince Edward Island

Journal of Biomechanics Award

Benjamin Robertson, et al.,

Temple University and North Carolina State University

Junior Faculty Research Award

Jeremy Crenshaw University of Delaware

President's Award

Kristen Jakubowski, et al., Northwestern University

Research Travel Grant No applications received

Past-President, cont. Paul DeVita

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 will be 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 application deadline is the abstract submission deadline for the 2017 Annual Meeting.

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 application deadline is the abstract submission deadline for the 2017 Annual Meeting.

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 are 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.

The first recipient of the award was: 2016 Jeremy Crenshaw

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

Past-President, cont. Paul DeVita

for the annual ASB meeting. The application deadline is the abstract submission deadline for the 2017 Annual Meeting.

Recent winners of the award are: 2016 Emily Lawrence 2015 Rachel Lenhart 2014 Laura Chernak Slane 2013 Arin Ellingson 2012 Jacob Elkins 2011 Curtis Goreham-Voss

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. The application deadline is the abstract submission deadline for the 2017 Annual Meeting.

Recent winners of the award are: 2016 Katherine Steele 2015 Jason Franz 2014 Amber Rath Stern 2013 Steve Collins 2012 Metin Yavus 2011 Paul Ivancic

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 ASB annual meeting, and submit their work for publication in Clinical Biomechanics. The award will be selected from submitted abstracts for the 2017 Annual Meeting. There will be a check box on the abstract submission page to check if you want your abstract to be considered for this award.

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 is selected from submitted abstracts for the 2017 Annual Meeting. There will be a check box on the abstract submission page to check if you want your abstract to be considered for this award.

Student Travel Awards

These are offered to help students attend the ASB annual meeting. There are a



2016 Award Summary

Student Travel Awards

Albert Angiolilo, University of Colorado

Matthew Beerse, Georgia State University

Elizabeth Bell, University of Maryland

Scott Ducharme, University of Massachusetts, Amherst

Brecca Gaffney, University of Denver

Rena Hale, University of Texas at El Paso

Amy Hegarty, Colorado School of Mines

Jenny Kent, University of Nebraska at Omaha

Paige Lin, University of Southern California

Evan McConnell, Virginia Tech

Zachary Merrill, University of Pittsburgh

Renani Mohsen, University of Missouri-Kansas City

Joseph Mozingo, Mayo Clinic)

Iman Shojaei, University of Kentucky

Aïda Valevicius, University of Alberta



2016 Award Summary

ASB Fellows

Vijay Goel, University of Toledo

Richard Hughes, University of Michigan

Richard Neptune, University of Texas

Past-President, cont. Paul DeVita

number of these awards and each winner receives an award of \$250. The application deadline is the abstract submission deadline for the 2017 Annual Meeting. If more than one application is received by students of the same advisor, only one will be funded.

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.

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.

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 should be directed to the past-president (devitap@ ecu.edu) by December 15, 2016.

(Ed. note: Apologies to the membership for the late delivery. Please note the nomination process for new Fellows was completed on December 15, 2016.)

"I am still the same person doing the same science. Why are people so impressed when some academy in Sweden gives an award?"

- Venkatraman Ramakrishnan



40th Annual Meeting of the American Society of Biomechanics by Photographer Jing-Sheng Li and Editorial Assistant Cara Lewis



Communications Committee

Winter greetings from Pullman, Washington. It is getting cold up here and I am starting to spend a lot more time inside at my computer. It gets me thinking about how the ASB is communicating online to the membership. The webpage, Facebook page, Twitter feed, and newsletter have been very active over the past year. We



made concerted efforts to be more active on Twitter at this last ASB in Raleigh to provide instant updates as events and talks were happening. Follow us at @ AmSocBiomech so you can get these live updates when we meet again in Boulder next summer. But what else can we be doing to communicate new items, or longavailable resources, to our membership?

If you are reading this, then you don't fit into those altogether missing our communication efforts, but I think our membership can also help identify the people we aren't reaching yet. Is it undergraduate students, the public, industry...who are we not adequately reaching? What can we do to reach people better? We have a lot of members in unique positions. I would like to hear from you. Tell me what our currently available resources can better provide you, and also how can we reach your non-member friends with some useful resources?

Another one of our efforts has been to collect interesting research related pictures from our members and 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. It is a win-win. So, if you have some interesting photos and are willing to share, let me know. Here is exactly what we are looking for:

• 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, I want to point out our increasing efforts to provide student and educational resources. We will soon be rolling out a change to our website to separate out educational resources from student membership. Obviously, we think that student membership is also an educational resource. However, an increasing amount of educational resources are available for teachers as well. The education committee unveiled the online teaching repository in Raleigh. The graduate program page and other student resources will also be available on the new education site. Also look out for our new one stop page for next year's regional meetings. Student membership information will soon be relocated to the membership part of the website.

Thank you to everyone that has contributed to the efforts described above. Also, thanks goes out to all the people behind the scenes that keep everything running smoothly.



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Volume 29, Number 2

National Biomechanics Day Paul DeVita

This newsletter is my first in-print opportunity to thank the membership for your warm and energetic applause at the 40^{th} ASB meeting in Raleigh when I stepped down as President of the Society. To paraphrase the noted philosopher Groucho

Marx, I would also applause if I stepped down as President of any club. So, regardless of whether you were happy or sad, I thank you very much for your support and your kindness. Some of that support and kindness was due to our successful efforts to create National Biomechanics Day (NBD) in 2016. NBD 2016 was a whirlwind success thanks to everyone's incredibly enthusiastic participation. As I like to say, it was the single greatest day in biomechanics: there were more smiles on more faces in more biomechanics labs than ever before. To wit:



Wow, 12 smiles on 12 faces. That's gotta be the record, I mean, really, these people were in a Biomechanics Lab after all.

Let's now discuss the future which for us is April 6, 2017. We are presently organizing our second NBD with the theme, "Science meets fun on National Biomechanics Day," and it will. Unlike most sequels however, NBD 2017 will be greater than NBD 2016. We are already approaching the registration totals set last year with Biomechanists throughout the country enrolling to hold events. Most incredible however is that National is going International in 2017. We have eight other nations registered for 2017: Australia, Brazil, Canada, England, Ireland, New Zealand, South Africa, and Taiwan, and most of these countries have multiple NBD sites. We are also recruiting more participants around the world. This is really fantastic and it strengthens the international ties we all have through Biomechanics. NBD is supported internationally by the International and Brazilian Societies of Biomechanics, the Osteoarthritis Research Society International, and Australian and New Zealand Orthopaedic Research Society. Of course it is also confusing to have International National anything. We were not ready to abandon our NBD namesake however after only one year so we are going with the idea that there will be Canada National Biomechanics Day, New Zealand National Biomechanics, Taiwan National Biomechanics Day, etc. We are seeking Around the World participation, i.e., an NBD event every 10 degrees of longitude. This geographic plan may present some difficulties around 30 degrees and 160 degrees west longitude but we'll sail those oceans when we have to.

We also have been extremely fortunate in that we increased our number of sponsors and supporters from three organizations in 2016 to 16 in 2017 (see page 19). Please visit the NBD Website and the Sponsors' Page for quick links to their websites.

Let's get heavy: why are we doing this? I have been saying the long term goal is to incorporate Biomechanics into high school curricula around the country and now around the world. I hope we see this in the next 10 years...or so. Really however, we are doing National Biomechanics Day because Biomechanics can help people and more Biomechanics can help more people more. Biomechan-





2017 National Biomechanics Day website



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n Kinesiology Association





American Sports Medicine Institute

http://nationalbiomechanicsday.asbweb.org/

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National Biomechanics Day Paul DeVita

ics brings together so many sciences and endeavors that it becomes irresistible. Biomechanics is the fundamental combination of all things STEM. It is science, technology, engineering, and mathematics....and even more. It is also medicine, health, physical activity and performance, and more and now with the emergence of Dance Science, even art. Biomechanics is the broad expanse of biology in the physical world and it makes substantial contributions to human society. Why not increase these contributions by bringing more young people to our science? It is our experience that once exposed to biomechanics, young people gravitate towards biomechanics science. They relate well to it because, just for example, biomechanics techniques are the basis for creating all video games played today. Young people are vaguely familiar with motion capture to create their favorite games with their favorite athletes. When they see, "mo-cap," in real life, they are excited and intrigued by it. Biomechanics then becomes science with purpose for them because they participate in it, they live it; biomechanics is the science of people's lives moving and performing our daily activities. Biomechanics is the perfect vehicle for STEM and STEAM education and we should, if I may, exploit this perfection to further and substantially improve human society.

Please register for National Biomechanics Day and participate in our revolution:

As I said at last summer's 40th ASB meeting, "If we actually ALL participated, ALL of us, we can change the world, practically alter its rotational motion on its axis. The Effect Size would be large." Let's make Biomechanics the breakthrough science of the 21st century.

Onward and upward!

Let me close by thanking the NBD Organizing Committee: Jill McNitt-Gray, Janet Dufek, Scott Breloff, Karl Zelik, Rami Hamzey, and Cannon Vick.

Celebrating the 21st century's breakthrough science

http://nationalbiomechanicsday.asbweb.org/

cience meets

Celebrating the 21st century's breakthrough science



National Biomechanics Day April 6, 2017

http://nationalbiomechanicsday.asbweb.org/



2017 National Biomechanics Day website

Celebrating the 21st century's breakthrough science



National Biomechanics Day April 6, 2017

http://nationalbiomechanicsday.asbweb.org/

ASB Newsletter

Page 20

Biomechanics

April 6, 2017

National

Day



2017 Annual meeting website

Program Chair Stephen Piazza

The 41st Annual Meeting of the American Society of Biomechanics (ASB) will be held August 8-11, 2017 at the University of Colorado in Boulder, CO. We encourage the submission of high quality abstracts across the full breadth of contemporary biomechanics research, including but not limited to: gait,



posture and balance, rehabilitation engineering, ergonomics, musculoskeletal and orthopedic mechanics, prosthetics, orthotics and exoskeletons, comparative biomechanics, motor control, computational modeling and simulation, sports, teaching, as well as cellular, molecular and tissue mechanics. In concert with ASB's enhanced efforts to increase diversity in the field, we encourage submission of abstracts reporting studies of under-represented populations and health disparities. Furthermore, abstract submission instructions will indicate that appropriate descriptors of study participants should be included in submitted abstracts, such as the age and sex-composition of the sample.

The program will include multiple parallel sessions, research symposia, thematic poster sessions, traditional poster sessions, lab tours, tutorials, and student-focused programming. We are pleased to announce keynote speakers Dr. Julie Steele of the University of Wollongong and Dr. Beth Brainerd of Brown University.

We look forward to our annual best paper competitions (Clinical Biomechanics and Journal of Biomechanics), and the Society's honorary awards: the Borelli Award, Jim Hay Memorial Award, Goel Award, Founders' Award, Young Scientist Pre-doctoral Award, and Young Scientist Post-doctoral Award. Please also consider submitting your proposal for an innovative and impactful research symposium. The symposium proposal deadline is January 15, 2017. See the ASB website for more details.

Abstract submission will open on January 15, 2017 and abstracts will be accepted until 5:00 pm EST on March 3, 2017. Meeting information is available through the ASB website and the meeting website. Links for abstract submission, meeting registration, and awards eligibility and nomination procedures may be found on the meeting website.

Looking forward to seeing you in Colorado!



Meeting Chairs Roger Enoka, Rodger Kram, Alaa Ahmed, and Alena Grabowski

Preparations are well under way for the 41st Annual Meeting of the American Society of Biomechanics in Boulder, Colorado. The meeting will take place on the picturesque campus of the University of Colorado Boulder from August 8-11, 2017. The University of Colorado Boulder (CU Boulder) is located in the heart of the city of Boulder, with easy access to a wealth of entertainment, recreational and dining opportunities. Getting to Boulder is easy. It takes less than an hour to get from Denver International Airport (DIA) to campus, with convenient bus service running every hour.

The opening reception and scientific sessions will take place on campus. This year, we are excited to hold lunch at the University's Center for Community (C4C), an on-campus award-winning dining center that provides a novel integration of community and cultural dining experiences. Conference attendees will be able to choose from 10 on-site micro-restaurants featuring a range of local and international cuisines.

This year, for the first time, we will be offering multiple off-site dining/entertainment options in lieu of a single banquet, to accommodate the many diverse interests of the meeting attendees. Options will include a tour of Boulder breweries, dinner at a new outdoor foodpark/bar offering some of Boulder's most eclectic cuisine and local beer, and much, much more. Descriptions of the options will be provided on the meeting website, so please be on the lookout. Attendees can sign up for the activity of their choosing at the time of meeting registration. Spots may be limited though, so please register early to ensure you get the activity you want.

While it is certainly wonderful to host the meeting on campus, this also means that space will be limited. To accommodate this, the number of conference attendees will be limited to 1000. **Registration will close once we have reached 1000 attendees.** It is incredibly important that you register for the conference as soon as possible. Early registration is a win-win. It will guarantee you a place at the meeting, lower registration fees, and your choice of evening entertainment options. So register early!

More information is available at the ASB2017 meeting website. The call for Research Symposia has been posted, with a deadline of January 15. Abstract submission information, attendee registration, and accommodation options will soon be available on the website. Be sure to follow ASB on Twitter and like the ASB Facebook page to stay on top of current announcements.





2017 Annual meeting website





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Diversity Committee Kristin Zhao

As I reflect on my tenure as Diversity Chair for the ASB, I am proud of what our society has created. For supporting the Diversity Task Force, for creating a Diversity Committee and executive board position for the Diversity Chairperson, and for using the principles of diversity and inclusion to guide many





decisions and initiatives along the way. There were many opportunities to speak up on behalf of inclusion and diversity—while selecting teams of individuals for awards selection committees, when creating the annual meeting abstract template, when inviting speakers to the women in science and diversity breakfasts... The ideals are now embedded in every discussion and decision considered by the ASB Executive Board. And this was so eloquently demonstrated by the discussions and statement issued by the Executive Board in response to the passage of House Bill 2 by the State of North Carolina prior to the annual meeting in 2016. The message was clear and strong: "The American Society of Biomechanics is a scientific organization absolutely dedicated to the discovery of knowledge and truth. We hold in our hearts and minds the belief that all people can contribute to this process of discovery and enlightenment. Our recent establishment of the ASB Diversity Chair and Diversity Committee, which occurred well before HB2 passed, further strengthens our commitment to this position and has allowed us to focus on supporting and enhancing diversity programming within the society. Specifically, the ASB is committed to supporting its members regardless of race, color, religion, age, national origin, sex, sexual orientation, gender identity or disability. Establishing the Diversity positions has been most fulfilling for the Society....."

The 2016 annual conference was a great success. Fifteen individuals were awarded Diversity travel awards to attend the conference; these awards were sponsored by NIH (NICHD and NIBIB), the UNC Division of Physical Therapy, and the UNC-NCSU Rehabilitation Engineering Core. Further, the society supported the self-organization of interest groups which formed along professional and social themes throughout the conference, including: African American, LGBTQ and allies, wearable sensors, and computational biomechanics. Interest group topics and meeting locations and times were shared through the conference app. The Women in Science Breakfast, sponsored by novel electronics inc., and the Diversity Breakfast, sponsored by the Department of Biomedical Engineering and Mechanics at Virginia Tech, were hosted by the Society and highlighted presentations/discussions by Dr. Marcia Gumpertz and Dr. Robin Coger, respectively. Dr. Gumpertz is Assistant Vice Provost for Faculty Diversity and Professor of Statistics at North Carolina State University. She facilitates campus efforts to increase the representation of women and underrepresented minority groups on the faculty and to create a welcoming climate for all faculty. She emphasized career advancement using evidence and data-driven ideas. Dr. Robin Coger is the Dean of the College of Engineering and a Professor of Mechanical Engineering at North Carolina Agricultural and Technical State University in Greensboro, NC. Dr. Coger is a fellow of the American Society of Mechanical Engineers and of the American Institute for Medical and Biological Engineering. She is also a member of the Board of Directors of FIRST – an organization founded to inspire the interest and participation of young people in engineering, science and technology.



Diversity Committee, cont. Kristin Zhao

Dr. Coger spoke about changing your vantage point on your career and taking an active role in how you respond to situations that may affect your career and advancement. Both breakfasts were highly attended, with registrations exceeding the 100-person room capacities.

As I transition to be the 2018 ASB Annual Meeting Chair in Rochester, Minnesota, I am happy to introduce Robin Queen, PhD, as the incoming Diversity Chair. Dr. Queen served for 11 years as the director of the Michael W. Krzyzewski (Coach K) Human Performance Laboratory at Duke University before going to Virginia Tech in 2015 to helm the Kevin P. Granata Biomechanics Laboratory as an associate professor in biomedical engineering and mechanics. She has an interest in whole body mechanics with an emphasis on loading symmetry and



functional outcomes following surgical interventions, and has published more than 85 peer reviewed manuscripts in a variety of basic science and clinical journals as an independent investigator. In addition to her role as the director of the Granata Biomechanics Lab, Robin is an Associate Professor of Orthopaedic Surgery at the Virginia Tech Carilion School of Medicine as well as adjunct faculty at the Edward Via College of Osteopathic Medicine. Robin's work with professional societies include her roles as chair of the Orthopaedic Research Society's Women's Leadership Forum and as a member of the annual meeting and basic science committees. In addition, Robin serves on the Women's Health Issues Advisory Board at the American Academy of Orthopaedic Surgery and is a member of the Medical and Scientific Advisory Board at Quest Diagnostics. Robin is a Fellow in the American College of Sports Medicine and serves as a member of the Strategic Health Initiative on Youth Sports and Health. Robin has been a member of the American Society of Biomechanics since 2004 where she has previously served as an abstract reviewer and a member of the awards committee. Robin's diversity and inclusion efforts include her service to Virginia Tech as the co-chair of the Women's Alliance, chair of the Biomedical Engineering and Mechanics diversity committee as well as serving as an at-large member of the University's Commission on Equal Opportunity and Diversity.

> "We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology."

- Carl Sagan

President-elect Wendy Murray

Through a yearlong teaching fellowship I completed at Northwestern, I was introduced to the ideas of "threshold knowledge and troublesome concepts" (see Meyer and Land, 2003). A fundamental characteristic of threshold knowledge is that it is "transformative"—learning results in a "... new and previously





Lately, I've become interested in the idea that "troublesome concepts" present an obstacle to research progress. Everyone heralds the importance of interdisciplinary work and translational research. However, if you've ever presented engineering results to clinicians, you know that translation is a very difficult process. Similarly, scientific review boards are increasingly multidisciplinary and multi-scale. Thus, we are often tasked with persuading others, outside our field, that our research is both important and adds measurable value. As an example of a time when I failed to be sufficiently persuasive, here's an excerpt from a review of a proposal:

"The reviewers noted the great potential of integrating cutting edge imaging approaches and computational biomechanics, however, the major concern was that recreational injuries (that may be prevented and treated by physical therapy) may not be compelling ..."

The proposal was submitted internally, for a limited-submissions competition. I had served on the university-wide review panel in the past, and knew that it was composed of a broad range of different scientists, with specializations such as chemistry and cancer biology. Thus, I wasn't completely surprised my proposal was not selected. However, there was something about the statement in the critique, that injuries treatable by physical therapy were not compelling, that made me think my colleagues were in need of transformation (see what I did there?)

I'm interested in identifying "troublesome concepts" in biomechanics research. I think it will be beneficial to our field to identify critical concepts that, in our experience, are consistently misunderstood or unappreciated, especially by colleagues outside our discipline. Ultimately, our task would be to better communicate these difficult concepts to our colleagues, so that the intellectual and scientific contributions of biomechanics can be more fully appreciated. From my own graduate training, the Zajac-ian concept that "a biarticular muscle can accelerate one of the joints it spans in the direction opposite its anatomical classification" is a classic "threshold knowledge" concept for me. It highlights both the extent to which multibody dynamics are difficult to intuit, and that specialized quantitative skillsets are necessary to truly understand muscle contributions to movement. Please share suggestions of "troublesome concepts" that have had a transformative effect on the way you think about biomechanics with me on Twitter @ wendymmurrayphd.



ASB Corporate Sponsors 2016

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:

Partner Member Tekscan



ASB Newsletter

Wearable Exoskeleton Modeling using the AnyBody Modeling System[™]

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The AnyBody Modeling System offers a cost-effective approach to predict and evaluate the important functionality of exoskeletons, e.g. maximum actuator force and precise alignment of exoskeleton joint locations with the anatomy of the user.



Prototype for assistive device for elderly persons (Thanks to the AxoSuit project www.axo-suit.eu and Shaoping Bai Aalborg University)

Optimized design of exoskeletons targeting either individual users or groups of users with different body anthropometries or capabilities.

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- Muscle forces
- Joint reaction forces and moments
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AnyBody Technology Niels Jernes Vej 10 DK-9220 Aalborg East Denmark Phone +45 9635 4286 Fax + 45 9635 4599 Email: sales@anybodytech.com www.anybodytech.com brachial plexus injury patients (Thanks to Shaoping Bai, Aalborg University. For details see Zhou et al. 2015, Modeling, Identification and Control 36, 167-77, ISSN 1890-1328)

Passive exoskeleton for

ANŸBODY

Umbrellas are for Tourists William Ledoux

Hello ASB members! If you are reading this, you are no doubt a dedicated newsletter reader as we are getting to the end here. This issue is arriving later than normally, primarily because I suffered a combined logic board/hard drive failure, compounded further by a corrupted backup. All this fun and excitement

got me seriously considering going completely to cloud-based computing, but I haven't made the leap yet and am stubbornly clinging to my rebuilt 2009 Mac-Book Pro. Briefly, to update you on the status of the ASB archives-we had a large display at the 40th ASB meeting in Raleigh, NC, with scanned and printed copies of all 39 previous conference proceedings available for perusal. (Thanks to Kate Saul for putting that together.) We also had original proceedings available to see (but not touch) for all of the older meetings (1 to 25); since 2002 at the World Congress in Calgary we have primarily been electronic. Additionally, we had some original letters penned by Jim Hay as he was in the process of founding our organization (thanks to Don Chaffin for saving those copies). On the following pages, I have included a copy of the oldest letter that we have in our files. In it, Dr. Hay is soliciting colleagues to attend a planning meeting during the Vth International Congress in Biomechanics held in Jyväskylä, Finland from June 29 to July 7, 1975 "to determine if there is sufficient interest to warrant proceeding with the founding of a national association for biomechanics." As our society is thriving 42 years later, I'd say emphatically yes, there was sufficient interest!







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ASB Newsletter

THE UNIVERSITY OF IOWA

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Department of Physical Education for Men Area 319: 353-5060

Dear Colleague,

Several times during the past two to three years it has been suggested that there exists a need for a national association for those active in the field of biomechanics -- an association for the exchange of ideas and information among the many people now working in the numerous areas to which biomechanics is currently applied.

There are, of course, several regional and national associations -the American Society of Mechanical Engineers, the Orthopaedic Research Society, the American Alliance for Health, Physical Education and Recreation and the American College of Sports Medicine, to name a few -which regularly or occasionally schedule meetings devoted to topics in biomechanics. These, however, are generally attended only by those people associated with the parent field -- mechanical engineering, orthopaedics, physical education, sports medicine etc. As a result, there is relatively little opportunity for the kind of exchange between people working in different areas of application that would so clearly be of benefit to all concerned.

What is envisaged, in addition to these "in-house" activities, is an association which would work to serve members by facilitating exchanges across areas of application. The prime function of such an association, at least initially, would be to organize and conduct an annual (or biennial) scientific meeting -- a meeting akin to those conducted biennially by the International Society of Biomechanics. Once satisfactorily established other worthwhile activities would no doubt suggest themselves.

The purpose of this letter is to acquaint you with the fact that a meeting will be held, at the Vth International Congress in Biomechanics in Jyvaskyla, Finland next month, to determine if there is sufficient interest to warrant proceeding with the founding of a national association for biomechanics. If you are going to be in Jyväskylä for the Congress (your name and address were obtained from the organizers of the Congress) I would like to extend an invitation to you to attend the meeting and to make your views known. If you cannot attend, any comments you might have concerning this matter would be greatly appreciated. These comments should either be directed to me at the above address or to a colleague who can present them on your behalf at the meeting in Jyväskylä.

With best wishes,

Yours sincerely,

James A. Nay

2.

James G. Hay Ph.D.



ASB Newsletter



Events Calendar Dan Gales

Human Factors and Ergonomics Society Human Factors and Ergonomics in Health Care March 5-8, 2017 New Orleans, Louisiana, USA Abstract deadline: past www.hfes.org

Orthopaedic Research Society Annual Meeting 2017 March 19-22, 2017 San Diego, California, USA Abstract deadline: past www.ors.org/2017annualmeeting

Society for Modeling and Simulation International April 23-26, 2017 Virginia Beach, Virginia, USA Abstract deadline: past scs.org/springsim

Gait and Clinical Movement Analysis Society May 23-26, 2017 Salt Lake City, Utah, USA Abstract deadline: past *tinyurl.com/gu5azxo*

American College of Sports Medicine 2017 May 30-June 3, 2017, Denver, Colorado, USA Abstract deadline: past www.acsmannualmeeting.org

American Physical Therapy Association NEXT Conference and Exposition June 21-24, 2017 Boston Massachusetts, USA Abstract deadline: past www.apta.org/NEXT Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C) June 21-24, 2017 Tucson, AZ. Abstract deadline: January 17, 2017 *sb3c.org*



International Society of Biomechanics 2017 Congress XXVI July 23-27, 2017, Brisbane, Australia Abstract deadline January 13, 2017 www.biomech2017.com

Symposium of Hand and Wrist Biomechanics International July 24-26, 2017 Brisbane, Austrailia Abstract deadline: January 13, 2017 www.hwbi.org/2017

American Society of Biomechanics Annual Conference August 8-11, 2017 Boulder, Colorado, USA Abstract deadline: March 3, 2017 *asb2017.org*

American Society of Biomechanics Annual Conference August 8-11, 2018 Rochester, Minnesota, USA Abstract deadline: TBA website: TBD



NOTE:

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

ASB2017AMERICAN SOCIETY UNIVERSITY OF COLORADO BOULDER

August 8-11, 2017

http://asb2017.org

