

MNIUTES – ED Com Meeting – ASA #179 “Acoustics Virtually Everywhere”

(Tuesday, December 1, 2020 – 4:30-6:00pm EST)

This virtual online meeting via Zoom was called to order at 4:32pm by ED Comm chair, Dan Russell. The meeting was recorded and is available at https://psu.mediaspace.kaltura.com/media/1_j3q2lbhx

Attendance: (44 logged into the Zoom meeting)

Shima Abadi, Takayuki Arai, David Blackstock, David A Brown, John Buck, Marion Burgess, Andrea Calilhanna, John Cormack, Jim DeGrandis, Jack Dostal, David Dowling, Carr Everbach, Mahdi Farahikia, T.J. Flynn, Tom Gabrielson, Mark Hamilton, Kurt Hoffman, Chris Jasinski, Trevor Jerome, Keeta Jones, Martin Lawless, Adrian KC Lee, Jill Linz, Daniel Ludwigsen, Subha Maruvada, Brian Monson, Tom Moore, Andrew Morrison, William Murphy, Peggy Nelson, Andy Piacsek, Gordon Ramsey, Kimberly Riegel, Olivier Robin, Michael Rollins, Dan Russell, Dawn Schuette, Juli Simon, Fernando del Solar Dorrego, Vic Sparrow, Adam Svec, Steve Thompson, Preston Wilson, Rand Worland

Approval of Minutes from May 2020 Virtual Meeting

Motion to approve minutes as posted – *Jim DeGrandis* Seconded – *Steve Thompson*

Update on Education in Acoustics Awards

2020 Rossing Prize for Acoustics in Education

- **Daniel Butko** – University of Oklahoma
 - *“Over a decade of decibels & celebrating teaching architectural acoustics within an architecture curriculum to students with various majors and minors”*
 - **Tuesday, Dec. 8 – 2aED – 11:15am-12:10pm EST – Rossing Prize Lecture**

The 2020 Rossing Prize Selection Committee was:

Dan Russell (ED Com chair 2018-2021)
Andy Morrison (selected by previous ED Com chair – 2018-2021)
Tyrone Porter (selected by ASA president – 2017-2020)
John Buck (selected by Chair of Prizes & Special Fellowships Chair – 2018-2021)
David Dowling (selected by Chair of Prizes & Special Fellowships Chair – 2019-2022)

⇒ We need members of ED COM to submit nominations for the Rossing Prize. During the last couple of years, we have had a shortage of nominations for this prestigious award. Members of ED Comm know who some of the outstanding contributors to Education in Acoustics. Please think about nominating a worthy individual. A list of past award winners is on the ED Comm website: <https://asaedcom.org/awards/> The call for 2021 nominations should appear in an email from ASA in January.

2020 Robert W. Young Awards for Undergraduate Research in Acoustics

There were 12 strong applications this year. Thank you, Kimberly Riegel for helping Dan Russell review the applications.

- **Victoria Anderson** — \$500 — *“The impact of classroom acoustics on student reading and math achievement”*
 - University of Nebraska — Advisor: Lily Wang (Architectural Engineering)
- **Jenna Barrett** — \$500 — *“Perception of Degraded, Foreign-Accented Speech”*
 - Ohio University — Advisor: Li Xu (Communication Science)
- **Nathan Kizer** — \$500 — *“On the fly detection and correction of adhesion for polymer 3D printers using surface acoustic waves”*
 - Penn State University — Advisor: Christopher Kube (Engineering Science & Mechanics)
- **William Johnston** — \$350 — *“Acoustic Properties of 3D Printed Fibrous Structures”*
 - Wichita State Univ. — Advisor: Bhisham Sharma (Aerospace Engineering)
- **Tillena Trebon** — \$350 — *“Effect of hesitation sound phonetic quality on perception of language fluency and accent”*
 - University of Oregon — Advisor: Melissa Baese-Berk (Linguistics)
- **William Newman** — \$300 — *“Ultrasonic parametric imaging of brain tissue”*
 - Rhodes College — Advisor: Brent Hoffmeister (Physics)

Special ED Sessions for upcoming meetings

ED Sessions for ASA #179 Acoustics Virtually Everywhere (Dec. 7-11, 2020)

The following sessions are ED special session or other TC sessions that ED co-sponsored:

- **Monday, Dec. 7**
 - **1pNSa** – 1:05-2:35pm EST – **Larry H. Royster Memorial Session I**
 - **1pNSb** – 2:50-4:00pm EST – **Larry H. Royster Memorial Session II**
- **Tuesday, Dec. 8**
 - **2aED** – 11:15am-12:10pm EST – **Rossing Prize Lecture** – *Daniel Butko (Univ. Oklahoma)*
 - **2aMU** – 11:15am-12:45pm EST – **Musical Acoustics Education at the Undergraduate Level I**
 - **2pMUa** – 1:05-2:35pm EST – **Musical Acoustics Education at the Undergraduate Level II**
 - **2pMUb** – 2:50-4:00pm EST – **Musical Acoustics Education at the Undergraduate Level III**
- **Wednesday, Dec. 9**
 - **3aEDa** – 9:30-11:00am EST – **Acoustics Demonstrations for Classroom Teaching I**
 - 3aEDa1: Acoustics outreach demonstrations show: Sounds to Astound -- *Cameron Vongsawad (Brigham Young Univ.)*.
 - 3aEDa2: Propellers, motors, fans – *Tom Gabrielson (Penn State)*
 - 3aEDa3: Acoustic-phonetic demonstrations for classroom teaching – *Takayuki Arai (Sophia Univ., Japan)*
 - 3aEDa4: Demonstration and validation of nonlinear acoustic shock wave formation in a renovated waveguide – *Connor McClusky, Mark Langhirt, Nick Carder, and Luke Wade (Penn State)*
 - **3aEDb** – 11:15am-12:25pm EST – **Acoustics Demonstrations for Classroom Teaching II**
 - 3aEDb1: Photoacoustic imaging demonstration – *Leah Burge and Murray Korman (US Naval Academy)*.
 - 3aEDb2: Demonstration of subjective sound preferences and jury studies in product noise control using countertop blenders – *Andrew Barnard (Michigan Tech. Univ.)*
 - 3aEDb3: An acoustic resonator rocket: Reviving Dvorak’s 1878 acoustic repulsion apparatus – *Dan Russell (Penn State)*
 - **3pED** – 1:05-2:35pm EST – **Hands-On Demonstrations: Acoustics at Home**
 - <https://zoom.us/meeting/register/tJAsf-6rpi0vGdHmlxbVIIYrun7S6Z8il-u5> (it will be recorded)
 - **3pAAa** – 1:05-2:35pm EST – **New Developments in Classroom Acoustics I**
 - **3pAAb** – 2:50-4:00pm EST – **New Developments in Classroom Acoustics II**
- **Thursday, Dec. 10**
 - **4aEDa** – 9:30-11:00am EST – **General Topics in Acoustics Education**
 - 4aEDa1: Last Call for the Wiki4YearOfSound2020 Campaign and the Contributions from Students – *Thais Morata*
 - 4aEDa2: SpeakEasy: Browser-based automated multi-language intonation training – *Jeramey Tyler*
 - 4aEDa3: Ogene Bunch music analyzed through the visualization and sonification of beat-class theory with ski-hill and cyclic graphs – *Andrea Calilhanna*
 - 4aEDa4: Interdisciplinary Physical Music; A Blind Spot in Education on Acoustics – *Stephen Onwubiko*
 - **4aEDb** – 11:15am–12:00pm EST – **Undergraduate Research Symposium Poster Session**
 - 4aEDb1: Acoustic conditions in occupied K-12 classrooms as measured over four continuous weekdays – *Dirk Hintz and Lily Wang*
 - 4aEDb2: Acoustical demonstration of slurring characteristics using a French horn – *Tiffany Bixler and Murray Korman*
 - 4aEDb3: Circular synthetic aperture ultrasonic acoustic imaging using a 2.25MHz underwater sonar – *Ava Twitty and Murray Korman*
 - 4aEDb4: Spectral Analysis of Turbulent Boundary Layer Pressure Fluctuations Collected by a MEMS Microphone Array – *Ethan Saff and Robert White*
 - 4aEDb5: Characterization of Sand Moisture Profiles for Improved Atmospheric Acoustic Modeling – *Faith Cobb, Nia Wilson, Andrea Vecchiotti, Diego Turo, Joseph Vignola, and Teresa Ryan*
 - 4aEDb6: Comparison of existing and experimental weather models of the near surface atmospheric boundary layer – *Nia Wilson, Faith Cobb, Diego Turo, Joseph Vignola, and Teresa Ryan*
 - **4pIDa** – 1:05-1:50pm EST – **Graduate Programs in Acoustics Poster Session I**
 - **4pIDb** – 1:50-2:35pm EST – **Graduate Programs in Acoustics Poster Session II**

AVE twitter posters – <https://asaedcom.org/get-involved/>

Post December 7 between 3:00 and 4:00pm (or whenever you like)

Special ED Sessions for Future Meetings

It appears that the likely plan for the next couple of meetings (in the COVID-19 era) will be for the spring/summer 2021 meeting originally scheduled for Seattle to be an online/virtual meeting, and the Fall meeting to take place in-person in Seattle, WA.

ASA #180 – (June 7-11, 2021) – Virtual/Online meeting

- **Hands-On Demos (virtual)** -- Acoustics at Home – Part 2
- **Best Practices in Scientific Computing** – Kim Reigel (joint with CA)
 - [Tips and tricks for using GitHub, creating unit tests, IDEs, Creating User Interfaces, etc.](#)
 - [Acoustics related ideas and resources for science fair projects or home-schooling activities.](#)
 - [We will reach out to Seattle area teachers and schools and the **Seattle area ASA Regional chapter**](#)
- **Teaching Speech & Hearing Science to Undergraduates** – Freddie Bell-Berti, Alexander Francis and Jenny Lentz (SC joint with ED, PP)

ASA #181 – Fall 2021 – Seattle, WA (Dates TBA)

- **Hands-On Demos (?)**
- Listen Up and Get Involved ([depending on Seattle area Girl Scouts Interest](#))
- **Reflections on teaching during a pandemic** – Dan Russell and John Buck
 - [What approaches worked? What didn't work as well?](#)
 - [How did we adapt experiential learning \(labs, hands-on activities\)?](#)
 - [What aspects of online teaching should retain when moving back to in-person “normal” classrooms?](#)
- **Psychoacoustics and Acoustics Education** – Martin Lawless and ?? (coordinate with P&P?)
 - [How we perceive sound . . . education about sound perception and human hearing . . . human auditory system.](#)
- **Tour (or social event) at the Pacific Science Center?** – [Keeta Jones will follow up](#)

ASA #182 – Denver, CO – (May 23-27, 2022)

- **Hands-On Demos**
- Listen Up and Get Involved (with Women in Acoustics) ([depending on Denver area Girl Scouts Interest](#))
- **Connecting Industry and Education** – Jim DeGrandis and Dan Russell
 - [Case studies and examples of successful partnerships between industry and educational institutions. Internships, equipment donations, educational programs, mentoring, etc.](#)
- **STEAM ideas and resources for science fair projects – teaching younger kids** – Kim Riegel, Andrea Calilhanna, and Cameron Vongsawad

Sydney, Australia ⇨ **POSTPONED UNTIL FALL 2023**

The Technical and Executive councils have asked that these sessions involve a co-chair/co-organizer from both the ASA and also the Australian Acoustical society and/or one of the Asian acoustical societies.

- **Connections between Music and Math** – Andrea Calilhanna and ???
- **Online Resources for Teaching Acoustics (with a music flavor?)** – Andy Morrison and Joe Wolfe?
- **Approaches to Acoustics Education in the Asia Pacific Region** – Marion Burgess and ???
- **Distance Learning for Acoustics Professionals Across International Boundaries** – Marion Burgess and Dan Russell and ???
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Reports from Subcommittees

SMMfL (Students Meet Members for Lunch)

Update from SMMfL chair, Martin Lawless ⇨ there were challenges implementing this during a Virtual Online meeting. But, despite the challenges we were able to match 77 students + 54 members. There were 24 new ASA members participating this time and 50 of the 77 students were new. Matchups were made, but details about when/where/how to meet up were left to each member student pair.

Special JASA issue on Education in Acoustics

It's time for another JASA special issue for Education in Acoustics. The first ED special JASA issue was published in 2011-2012 and had 25 papers:

<https://asa.scitation.org/toc/jas/131/3?tocSection=PART+2+SPECIAL+ISSUE+ON+EDUCATION+IN+ACOUSTICS>

Dan Russell and Preston Wilson to coordinate and co-guest edit the 2021-2022 Special Issue. The official call for papers will be announced and posted before the end of December 2020. Among the types of manuscripts we hope to receive are

- papers about demonstrations or student experiments,
- papers on computer animations of acoustics phenomena used for educational purposes,
- papers on laboratory exercises,
- papers on the interpretation of basic concepts in acoustics
- papers about the teaching of acoustics in general,
- innovative exercises for students to work out as homework problems and possible exam questions that might be given in courses related to acoustics.
- papers about general pedagogical issues, such as how to excite students' interest in acoustics, how to instill in them good skills for practical applications and research, and how to help students develop basic skills such as giving talks, preparing posters, or writing papers related to acoustics,
- tutorial papers which discuss recent developments in acoustics, or which bring new insight to traditional acoustics topics can also be suitable for this special issue.
- papers that report the results of pedagogical research on education in acoustics.
- papers could be concerned with education in acoustics at any level: pre-school, teaching to lay-audiences, K-12 education, undergraduate education, graduate education, and continuing education to adults.

Tentative deadline for manuscript submissions will be October 2021.

We will need members of the Education in Acoustics Committee to:

- Write and submit papers for this special session (authors can have multiple papers)
- Serve as reviewer for submitted papers

Report and Updates from Keeta Jones (ASA Outreach and Education).

International Year of Sound (IYS): activities extended through 2021

- Wikipedia edit-a-thon - <https://meta.wikimedia.org/wiki/Wiki4YearOfSound2020>
- Past/Upcoming virtual events - <https://exploresound.org/virtual-events/>
- Acoustics Today IYS issue - <https://acousticstoday.org/issues/2020AT/SpecialIssue/#p=1>
- Physics Today IYS issue - <https://physicstoday.scitation.org/toc/pto/73/12>

Update on Booths Initiative – VIRTUAL exhibit booths at other society meetings:

- ~~AAPT did not attend – no virtual interaction possible~~
- SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) – Keeta attended the virtual meeting as a booth sponsor. The online virtual platform was very well done. Several additional ASA members participated in a virtual Zoom room with Keeta. Several SACNAS student attendees were invited to attend ASA AVE – at least 5 undergraduate students will be attending (registration fee has been waived).
- NSBP (National Society of Black Physicists) – Keeta attended, but there was not much virtual interaction. Keeta was able to have a Zoom room with personal invites allowing others for some limited in-person discussion. Keeta received a database of all students who registered, and she emailed and invited people to attend Jim West's keynote address.

Update on ASA Teacher Activity Kits

- Status on version 2.0 of the Activity Kits . . . hopefully available by mid 2021?
- Currently stalled . . . trying to find a new company course for building the kits. Potential Kit Management: BrightKey or Educational Innovations
- Subcommittee: has developed ideas for new lesson plans (including P&P topics)
- ED currently has a \$20,000 annual ASA line item for this project – we should consider supplementing (or replacing) this with other funding sources (NSF and/or industry sponsorship)

SPS Science Outreach Catalyst Kits (SOCKS) – focus on Sound – these are ready and will soon be available upon request for SPS chapters and ASA Student and Regional Chapters.

Other Outreach Activities

- Invited Speaker Series (ASA and SPS) has pivoted to virtual talks. Volunteer speakers are needed!
 - › International year of sound speakers ([grant form to request a speaker](#))
 - › Interested in volunteering to be a speaker? Send Keeta an email (kjones@acousticalsociety.org)
 - › Interested in hosting a speaker for a virtual event? Send Keeta an email (kjones@acousticalsociety.org)
 - › Dan Russell gave a seminar for SPS – “The Acoustics of Ping Pong” – (Sept. 23)
 - <https://www.youtube.com/watch?v=ekalYkdrwl8>
 - › AAPT Speakers Bureau – 80 speakers available for seminars
- Society Civic Science Initiative - <https://www.societycivicscience.org/>
- Acoustics Education Workshop – was scheduled for summer 2020 AAPT meeting (which moved to an online virtual meeting). Plan to reschedule to next summer 2021 AAPT meeting? Gordon Ramsey, Keeta Jones, and Dan Russell are continuing to discuss options.

New Business

CIRDI – Committee to Improve Racial Diversity and Inclusivity

Newly formed ASA committee (formed in June 2020) to explore ways that ASA can become more inclusive and welcoming to members (especially students) from diverse backgrounds. There are several ways that the Education in Acoustics Committee can help this effort.

Making students at HBCU aware of acoustics as a viable career path

- Update on current efforts to contact faculty at HBCU with research areas related (even remotely) to acoustics
- Pamphlet/flyer about acoustics to send to HBCUs
- Advertising about Acoustics in *Physics Teacher* / *Physics Today* / *Science News* / *SPS Observer*

Collaboration with other organizations/programs

- AIP TEAM-UP
- National Organization of Minority Architects
- National Black Physicists Society
- Society of Hispanic Professional Engineers

Waiving Graduate School Application Fees for Minority and Underrepresented Students

- How to waive application fees for minority students applying to graduate programs in acoustics?

Mini Virtual ED Com conferences (aligned with Task Force D)

- Every 3 months . . . live session with a couple of speakers
- Possible topics: diversity in acoustics, REUs, Science Engagement, Demonstrations
- Small fee for participants?
- Engage with Task Force A . . . early career scientists (Peggy Nelson)

Create a List of ASA “endorsed” speakers

- Share list with HBCUs, SPS chapters, SWE chapters, and other minority science/engineering societies
- Invite speakers from these organizations to ASA meetings/events
- Create a “meet a scientist / adopt a physicist” program for K-12 to provide personal interactions with acousticians

⇒ Summer School & Research/Internship Experience for Minority Students

- Plans are underway to start this in a virtual format for summer 2021
 - › Initial Funding from ASA and AIP has been designated and approved
- Planning for 8 minority students participate in a 12-week research/internship experience
 - › 3 week “acoustics summer school” – 3 hours of class per day, to prep students with no acoustics background
 - › ED Com members can help with developing curriculum and teaching
 - › 9 weeks of research with faculty mentor / internship with industry mentor
 - › Weekly virtual meetings between student cohorts and mentors and ASA
 - › Weekly seminars by ASA members . . . from different TC areas
- Match each student with a faculty/industry mentor
 - › Information about being a summer intern mentor: <https://acousticalsociety.org/summer-internship-mentor-application/>
 - › ASA/CIRDI will provide training for mentors
 - › Provide resources for mentors and students
- Significant interest from Apple, Google, and some other industry sponsors
- In future years, this would be on-site, in-person research/internship experience

⇒ Breakout Rooms for Discussion about Acoustics Short Course Topics

From 5:30pm to 6:00pm we divided up into six Zoom breakout rooms to brainstorm a list of topics that would be a priority for a 3 week “acoustics summer school” to prepare undergraduates (juniors) for an acoustics-related internship or research experience. Summaries of breakout room discussions are being emailed to Dan Russell who will compile them and forward them to the CIRDI sub-committee that is organizing the summer internship/research experience for minority students.

Wrap up and Adjourn

At 6:00pm everyone was brought back together for a quick wrap-up and the meeting was adjourned at 6:05pm.

PHOTOS

Here are some screen shots taken during the Zoom meeting and breakout rooms.

