

184th Meeting of the
Acoustical Society of America

Speech Communication Technical
Committee Open Meeting
May 11, 2023

Chair: Benjamin V. Tucker



Obituary

Louis D. Braid, 1943–2022



Louis D. (Lou) Braid, a Fellow of the Acoustical Society of America, died on September 2, 2022, at the age of 79. Lou received his BS in electrical engineering (1964) from The Cooper Union, New York, New York, and his MS (1965) and PhD in electrical engineering (1969) from the Massachusetts Institute of Technology (MIT), Cambridge. He remained at MIT for his entire career as a professor of electrical engineering and computer science (EECS) and of health sciences and technology (HST). He was named to the Henry Ellis Warren Chair in EECS. Lou served for 15 years as director of the Speech and Hearing Sciences Training Program, a part of the Harvard-MIT HST Program, and retired as professor emeritus.

Conducting his research within the Research Laboratory of Electronics at MIT, Lou was internationally known for his work in the areas of intensity perception, the characterization of hearing impairments, and aids for the deaf. Using modern communication theory and signal-processing techniques, he worked to develop improved aids for people suffering from sensorineural hearing impairments, addressing many of the field's knottiest problems in the pursuit of improved performance.

Lou's work strongly enhanced the research community's analytical understanding of both the benefits and limitations of compression amplification in hearing aids. He also did rigorous research on approaches to frequency lowering for individuals with restricted useful auditory bandwidths, on characterizing the benefits of "clear speech" together with attempts to re-create the benefits via signal processing, and on applying automatic speech recognition to generate real-time "cued speech" as a speechreading supplement. Additionally, Lou sought to develop tactile aids that would serve as a substitute for hearing in the reception of speech and environmental sounds in people who are profoundly deaf or deaf-blind.

Lou worked for the long term. His work on intensity perception and loudness includes a series of 14 papers

in *The Journal of the Acoustical Society of America*. That research exploited a unidimensional model of perception. He then went on to develop a generalized multidimensional framework that could explain several interesting features of multimodal (audio-visual) speech perception.

Beyond his quantitative approach to perceptual research, Lou had a deep fascination with computers and engineering for psychoacoustic research and in the early days could be seen with streams of punched paper tape hanging around his neck. He was a devoted mentor to all his students, promoting a congenial laboratory environment that was truly remarkable. Occasionally, he "over-reached." To ensure that fresh coffee was always available in the laboratory, he once brought back 25 pounds of green (unroasted) beans from Hawai'i (Acoustical Society of America Meeting of 1988) because they don't become stale. However, we learned quickly that roasting them in a hot-air popcorn maker was not a pleasurable olfactory experience.

Lou will be remembered by his many students and colleagues as an intellectual force who had an enormous impact on our personal and professional growth, and he will be greatly missed.

Selected Publications by Louis D. Braid

- Braid, L. D. (1991). Crossmodal integration in the identification of consonant segments. *Quarterly Journal of Experimental Psychology* 43A, 647-677.
- Braid, L. D., Durlach, N. L., Lippmann, R. P., Hicks, B. L., Rabinowitz, W. M., and Reed, C. M. (1979). Hearing aids—A review of past research on linear amplification, amplitude compression, and frequency lowering. *ASHA Monographs* (19), 1-114.
- Durlach, N. L., and Braid, L. D. (1969). Intensity perception. I. Preliminary theory of intensity resolution. *The Journal of the Acoustical Society of America* 46(2), 372-383.
- Léger, A. C., Reed, C. M., Desloge, J. G., Swaminathan, J., and Braid, L. D. (2015). Consonant identification in noise using Hilbert-transform temporal fine-structure speech and recovered-envelope speech for listeners with normal and impaired hearing. *The Journal of the Acoustical Society of America* 138(1), 389-403.

Written by

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Obituary

Reinier Plomp, 1929–2022



Reinier Plomp, professor emeritus of experimental audiology at the Vrije Universiteit Amsterdam, The Netherlands, and Fellow of the Acoustical Society of America, passed away on January 21, 2022. His research interests ranged from basic issues on tone perception to speech recognition in noise by the hearing impaired. *The Journal of the Acoustical Society of America* was his favorite vehicle for publishing his research, with over 50 articles over 40 years.

After graduating from the Department of Physics, Technical University Delft, The Netherlands, in 1953, Reinier joined the Institute for Perception of the Dutch research organization TNO. In his PhD thesis, *Experiments on Tone Perception* (1966), Reinier provided a thorough historical overview of the then-current theories on hearing that were supplemented with new experiments. This included studying the role of frequency resolution in perceiving the pitch of complex tones, as from musical instruments, even after elimination of the fundamental frequency. In a now-classic experiment, Reinier measured the perception of pitch change when applying small frequency changes to individual harmonics of a complex tone. He concluded that the pitch was not determined by the fundamental frequency but essentially by the frequencies of a few lower harmonics. The citation history of Reinier's early publications indicates that these still inspire many colleagues worldwide.

Reinier was strongly motivated by the ideas of the German scientist H. L. F. von Helmholtz in his approach to his research. But Reinier was also impressed by the experimental approach of many American psychoacoustic researchers. In this way, he became a moderator of a transatlantic exchange of ideas in hearing research. In 1969, Reinier organized a meeting, Symposium on Frequency Analysis and Periodicity Detection in Hearing, bringing together researchers from the United States and Europe to discuss psychoacoustical and electrophysiological data on hearing. The proceedings, edited by Plomp

and Smoorenburg, were published in 1970. Since then, similar symposia became an international tradition every three years, and they continue even now.

In 1972, Reinier was appointed professor of experimental audiology at the Vrije Universiteit Amsterdam where he focused on the effects of noise on speech communication, especially for the hearing impaired. He developed measuring tools and procedures to quantify the degree of communication handicap resulting from hearing impairment. He also developed a model to describe the effect of noise on speech intelligibility with two main components: *audibility* (or simple attenuation) and *distortion* (loss of the quality of the signal). This approach was followed in the development of the hearing in noise test (HINT) by Sig Soli and still plays an important role in current tests on speech communication.

In a paper focusing on auditory rehabilitation (1988), Reinier took a position against the general trend of applying fast multichannel compression in hearing aids. Thereupon, with several PhD students, Reinier studied the admissible reductions of spectral and temporal modulations in speech without damaging intelligibility as well as the limits of permissible changes in the spectral slope. Based on these studies, he advocated for slow-acting automatic gain control to keep the speech signal within the limited dynamic range of the hearing impaired.

Reinier is survived by his wife Rita.

Selected Publications of Reinier Plomp

- Plomp, R. (1964). The ear as a frequency analyzer. *The Journal of the Acoustical Society of America* 36, 1628-1636.
- Plomp, R. (1978). Auditory handicap of hearing impairment and the limited benefit of hearing aids. *The Journal of the Acoustical Society of America* 63, 533-549.
- Plomp, R. (1986). A signal-to-noise ratio model for the speech-reception threshold of the hearing impaired. *Journal of Speech and Hearing Research* 29, 146-154.
- Plomp, R. (2002). *The Intelligent Ear: On the Nature of Sound Perception*. L. Erlbaum Associates, Mahwah, NJ.

Written by:

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Student poster competition: Nashville

- **Winners**
 - **Yaqian Huang** - The tonal system of Hengyang - (\$300)
 - **Benjamin Lang** - Perceiving the intersection of gender Identity, sexual orientation, and gender expression in American English - (\$200)
- All students are emailed the feedback comments from the judges!



Student poster competition: Chicago

- 56 students
- 36 judges
- Thanks to:
 - Daniel Aalto, Laura Koenig, Brandon Merritt
 - all the judges
- Competition organizers for Sydney?



Fall 2022-Spring 2024



Student Council Rep

TC: SPEECH

COMMUNICATION

SATWIK DUTTA

PhD student Electrical Engineering
THE UNIVERSITY OF TEXAS AT DALLAS

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Interested in joining Student Council?



Summer Undergraduate Research or Internship Experience in Acoustics (SURIEA)

- 12-week paid undergraduate internship
- Training, mentoring, research, and preparing for graduate studies & careers in acoustics
- Applicant's race/ethnicity should be one of the following underrepresented groups:

Black/African American, Native American,
Native Hawaiian or Other Pacific Islander,
Alaska Native, Hispanic or Latino/a



Keeta Jones
kjones@acousticalsociety.org





Join SMMFL!

Students Meet Members for Lunch
(SMMfL)

Student Outreach for Networking &
Integrating Colleagues

SONIC



Student Outreach for
Networking and Integrating Colleagues

Make connections as a Newbie!
Help fellow students as a Guide!

Info / sign-up:



14 students
participating in
Nashville!



SONIC pairs first time attendees with experienced students to help guide them through the ASA meeting and help with networking.

Check out our website:
asastudents.org



CONTACT US

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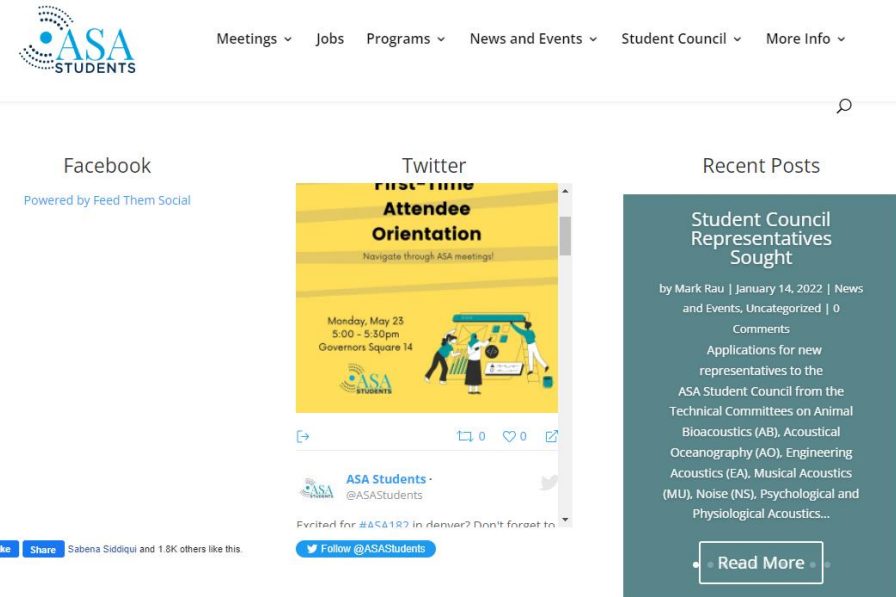
@ASAStudents



Acoustical Society of America Students



asastudentcouncil@gmail.com



Technical Program Organizers: Nashville

- Thanks:
 - Matthew Masapollo, Pasquale Bottalico, Kelley Berkson
- 145 abstracts
- Sydney TPOs:
 - Pasquale Bottalico, Kelley Berkson, **Lisa Redford**

SC Members Serving ASA

Peggy B. Nelson, President

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Diane Kewley-Port, Executive Council,
Investments, Public Policy

Fredericka Bell-Berti: Committee on Archives
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Zhaoyan Zhang: Medals & Awards

Cynthia Lee: ASACOS

Tessa Bent: Member Engagement
Committee

Ben Munson: Membership Committee

Christine Shadle: Prizes and Special
Fellowships committee meeting; Ethics and
Grievances; ASA Books

Jody Kreiman : Finance

Catherine Rogers: College of Fellows Steering

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Other Committees

- SC TC Awards Committee
 - Allard Jongman, Linda Polka, Zhaoyan Zhang, Rajka Smiljanic
- Fellows
- Awards
- Foundation
- Practitioners and Industry
- Liaison between the SC TC and the Education in Acoustics
 - Susannah Levi
- Membership (become full members)



Application for Transfer to Full Membership

Submit to asa@acousticalsociety.org

Apply for full membership!

- You can vote and be on committees
- Looks better if someone wants to nominate you for anything!
- application is streamlined online
- <https://acousticalsociety.org/wp-content/uploads/2019/04/fullapp.pdf>

To transfer to full Membership, complete the form below and return it by email with your c/v or a description of major professional experience asa@acousticalsociety.org.

Member: Any person active in acoustics, who has an academic degree in acoustics or in a closely related field or who has had the equivalent of an academic degree in scientific or professional experience in acoustics, shall be eligible for election to Membership in the Society. Election to full Membership may require six months or more; dues as a full Member will be charged in the year following your election.

Last Name First Name MI Title

Institution Department

Telephone Email

Highest Academic Degree Month/Year Institution Granting Degree

Field of Degree

Please indicate your three main areas of acoustical interests

1st 2nd 3rd

Applications require the names and email address of two full Members or Fellows who will sponsor your full Membership request.

Sponsor's Name/Email

Sponsor's Name/Email

Major Professional Experience/Contributions to Acoustics: Please include a separate attachment with your transfer application which contains a summary of your professional experience and contributions to acoustics (i.e., resume, curriculum vitae).

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Reminders

- **FUNDING OPPORTUNITIES:**

- Technical Initiatives
- Student transportation subsidies fund
- The Committee on Women in Acoustics (WIA) sponsors Young Investigator Travel Grants
- The Committee on Women in Acoustics (WIA) sponsors Dependent Care Subsidies
- Early Career Travel Support Awards
- Down Under Funder

- **Women in Acoustics Luncheon**

- **Society Luncheon and Lecture**

- Sign up for 'bring a student to luncheon'

Chicago meeting

- *SC Special Sessions:*

- Clear speech(es) across people, places, and time (Smiljanic & Zellou)
- Infusing Social Justice in Speech and Hearing Acoustics Pedagogy: Principles and Case Studies (Munson) **as a hybrid session**
- co sponsored with P&P: Perception beyond tones and speech in normal and impaired hearing: Voice, emotions, and music perception (Bazkent & Perrachione)

Future ASA meetings

- 2023 Fall, **Sydney**, Australia (Dec 4-8)
 - Down Under Funder (100 awards – notification July 15, abstract deadline July 24)
 - Who is planning on going to Sydney?
- 2024 Spring, **Ottawa** (need tentative special sessions)
- 2024 Fall, **fully virtual**
- 2025 Spring, **New Orleans** (joint with ICA)
- ...

Virtual Meeting: Ideas from EC

- Networking to engage new members, students, etc...
- Time zone considerations – sessions through the day to accommodate different TZs
- Students interacting with senior members
- Specific ideas (not just a platform designation),
- Doesn't have to look a normal meeting, need to set expectations and intent (access, environmental concerns, stay positive)
- Technical things that are difficult to do in person (apps videos, sounds, lightning sessions, panels)
- Ask for suggestions during TC meetings around format, recorded content/policy,
- Incentivize participation – prizes for best TC virtual program or sessions
- Experiment and be creative!!!

Some other notes about the virtual meeting

T-18 months	T-12 months	T-6 months	T
May 12 th , 2023 (end of Chicago meeting)	December 2023 (Sydney meeting)	May 2024 (Ottawa meeting)	Fall 2024 (late Nov. or early Dec.)
First draft of planned sessions	Final plan for sessions		

- Dates – week of Nov.20 ideally, 2nd choice 1st week of Dec
- Length of meeting?
- What can you do virtually that you can't do in person?
- Consider this meeting as a blank canvas – get creative – experiment
- What social activities do you want – game night, virtual gym, acoustic trivia
- Student Council participation – format?
- Electronic Posters?

Some Examples:

- (AIF Model) days or part of the day for 4 or 5 days
 - Formats:
 - panel discussions
 - lightning talks,
 - recorded talks with specific focus and with live Q&A
 - Tutorial sessions with live speaker and Q&A
- Virtual (or Behind the Scenes) lab/concert hall/industry tours
- Interview session – Ask me anything Q&A

SCTC – Please add your feedback

We can do a bit of brainstorming now but perhaps we can also do this asynchronously (slack, committee)

https://join.slack.com/t/sctcasa/shared_invite/zt-1v24q3sqc-Fc~eEnMTWXRwoTbfrNsEcg

Special Sessions

- 2023 Fall, Sydney, Australia (Dec 4-8) (Tentative Sessions due this week)
 - Phonetics of Under-Documented languages (Tucker, Tabain, Wright)
 - Voice therapy: science and clinical efficacy (Zhaoyan Zhang; Michael Döllinger and Catherine Madill (Australia))
 - Listening Challenges in Different Learning Environments (Kiri Mealings)
 - Phonetics of Emerging Varieties of English (Felicity Cox)
- 2024 Spring, Ottawa:
 - VowelFest: Honoring the past and celebrating the present (Jacewicz)
 - Speech and Sports (Drake, Baese-Berk)
 - Speech and noise in classrooms (Battalico,

Special Session Ideas

- 2024 Fall, Virtual
 - Session in honor of Ken Stevens' 100th birthday (Stefanie Shattuck-Hufnagel; Abeer Alwan, Maria-Gabriella Di Benedetto, and Jeung-Yoon Elizabeth Choi)
- 2025 Spring, New Orleans (joint with ICA)
 - At the intersection of speech and architecture (joint with Ken Good (AA) – any one interested in co-chairing?)

Meetings reimaged (hopefully will slow the pending increase in meeting cost)

- Accompanying persons program to be scaled back and food will be eliminated
- ASA move to single social held on Wednesday evening (will go into effect in 2025)
 - Open meeting times will change (5 or 5:30 PM)
- Society Luncheon and Lecture to eliminated
- Women in Acoustics Luncheon to be moved and restructured

Work on the **society finances** over the past couple of years; healthy in reserve accounts but operating at a loss; need to have a healthy operating budget and use the reserves in a strategic way

Other Business

- Any feedback on the Chicago meeting?