

# ROBERT BRADFORD NEWMAN

S T U D E N T A W A R D F U N D

## AT A GLANCE: 30 YEARS OF NEWMAN MEDALISTS

The first Robert Bradford Newman Student Medals were awarded in 1986. In the 30 years since, Newman Medals have been awarded to 323 students at more than 60 schools of architecture, engineering, music and music technology.

Five student teams received Wenger Prizes in both 2016 and 2017 for their meritorious design work juried and displayed at the ASA Student Design Competition (SDC) held at the 171st and 173rd meetings of the Acoustical Society in Salt Lake City, UT and Boston, MA, respectively.

The Advisory Committee extends its appreciation to students, teachers, consultants, professional supporters and friends of the Fund whose extraordinary voluntary efforts make the work of the Fund possible and thoroughly enjoyable. Corporate sponsors with interest in the realm of architectural acoustics have been especially supportive recently. We would also like to make special note of our appreciation to the staff at the Acoustical Society offices in Melville, NY who help the Fund's operation run so seamlessly.

*Lily Wang, Bob Celmer, & Michelle Yigeant*

Co-Chairs of the Newman Fund Advisory Committee

## 2016/2017 NEWMAN MEDALS

In 2016, 14 students were awarded Newman Medals, and as of the end of spring/summer semester 2017, 6 students were awarded Newman Medals.

### Hassan Azad

Faculty Advisor: Martin Gold  
University of Florida  
"Computer modeling of the sound diffusion and scattering coefficients and their influence on the diffusivity and acoustic quality of architectural spaces"

### Eric Ballestero

Faculty Advisor: Stephen Dance  
London South Bank University  
"Acoustic virtual reality: Dynamic binaural synthesis of the Roman Theatre of Arles"

### Douglas B. Beaton

Faculty Advisor: Ning Xiang  
Rensselaer Polytechnic Institute  
"Trans-dimensional methods of Bayesian room-acoustic modal analysis using nested sampling"

### Matthew G. Blevins

Faculty Advisors: Lily Wang & Erica Ryherd  
University of Nebraska - Lincoln  
"Design and optimization of membrane-type acoustic metamaterials"

### Simon Brown

Faculty Advisor: Stephen Dance  
London South Bank University  
"The suitability of additive manufacturing materials in 1:10 scale acoustic models of performance spaces"

### Cory Nickchen von Crawford

Faculty Advisor: Gary Siebein  
University of Florida  
"Evaluating the acoustical properties of court rooms by comparing acoustical measurements made in a large number of court rooms to Federal design criteria"

### Abigail Rose Davis

Faculty Advisor: Bob Coffeen  
University of Kansas  
"Acoustical performance of a completely renovated recital hall from subjective and objective points-of-view"

### Jenet Dooley

Faculty Advisor: Gary Siebein  
University of Florida  
"The effect of human influence on soundscapes in north central Florida"

### Jose Agustin Garrido Alcazar

Faculty Advisor: Gary Siebein  
University of Florida  
"Soundscape studies of interior and exterior spaces"

### Michelle Louise Huey

Faculty Advisor: Bob Coffeen  
University of Kansas  
"Comparison of interior noise levels produced by rain impinging on several commercial roof constructions"

### Kristen Hull

Faculty Advisor: Michael Ermann  
Virginia Tech  
"Vertical performance space"

### Benjamin W. Millett

Faculty Advisor: Bruce Hagland  
University of Idaho  
"Development of a community music center on a leftover triangular site in Boise, ID"

### Phan Anh Nguyen

Faculty Advisor: Wei-Hwa Chiang  
National Taiwan Univ. of Science & Technology  
"Stage acoustics design and scale model verification of a large vineyard hall"

### Logan D. Pippitt

Faculty Advisor: Bob Coffeen  
University of Kansas  
"Comparison of rain noise on assorted commercial roofs"

### Matteo Botto Poala

Faculty Advisors: Arianna Astolfi & Louena Shtrepi  
Politecnico di Torino  
"Modeling of adaptive panels to control sound scattering in large environments"

### Brad Postian

Faculty Advisor: Jeffrey L. Staats  
Roger Williams University  
"Acoustical analysis of the West Side City Hall in Providence, RI"

### Marilyn Roa

Faculty Advisor: Gary Siebein  
University of Florida  
"Archoustics: seeking an architectural typology for a worship space through theological interpretations of sound and light"

### Jennifer Russell

Faculty Advisor: Gary Siebein  
University of Florida  
"The architecture of music: designing space through sound"

### Doug Shearer

Faculty Advisor: Stephen Dance  
London South Bank University  
"Measuring absorption below 100 Hz with a P-U sensor"

### Sangbon Shin

Faculty Advisor: Gary Siebein  
University of Florida  
"The complexities of acoustics in learning spaces"



*Matteo Poala (Politecnico di Torino) with faculty advisors Arianna Astolfi and Louena Shtrepi*

## SPOTLIGHT: FUND ADVISOR DAVID WOOLWORTH



David Woolworth earned his BSME with a focus in acoustics and vibrations from Rensselaer Polytechnic Institute (RPI), and an MA in physics with an acoustics emphasis from the University of Mississippi. In 1987 David took a graduate class in acoustics taught by Henry Scarton, who became an important mentor and provided David with access to the lab for independent research in modal analysis of solid body electric basses and guitars and plates of string basses and mandolins. David's time at RPI included a break to study jazz for a year while working as a geotechnical/environmental engineer in NYC. He also spent a semester at the University of Hartford studying acoustical engineering with Newman Advisor Bob Celmer and classical studies at the Hartt School of Music; David also worked for the Carey Organ Company in Troy, NY. Encouraged by Hank Bass, David went to Ole Miss and the National Center for Physical Acoustics (NCPA) in January 1994. Graduate school included teaching physics and research in areas such as nonlinear resonators, resonant ultrasound spectroscopy, and sound transmission properties of materials. While in graduate school, David was recruited to work in the Eisenhower program to bring technology in teaching to poorly served areas in the Mississippi Delta. After he graduated, David taught Physics and Math at Coahoma Community College in Clarksdale for three years, and returned to NCPA as a lab physicist to work on a portable High Intensity Focused Ultrasound (HIFU) device for first responders. He spent his final year before starting a consulting firm as a visiting professor of physics at Ole Miss.

David started working in acoustical consulting and audio in 1987, mostly addressing issues related to music facilities and music performance based on his experience playing the double bass since 1977 and as co-owner of a sound reinforcement company in the 1990's. Starting a full time consulting firm allowed David to fulfill his passion for teaching acoustics and performing research, as well as working on all types of buildings and acoustics problems. He also lectures annually and mentors at Mississippi State and Louisiana State University Schools of Architecture. When David was considering starting in consulting he met with Bill Cavanaugh, who encouraged him to go to every ASA meeting and get involved. Bill still provides input to the Newman SDC as it adapts to changing technology and competition.

David has served on the ASA Technical Committees on Architectural Acoustics

and on Noise since 2006, the ASA Jam Subcommittee, and other committees since 2007. He is chair of Outdoor Sound Measurement Working Group WG27 (ANSI S12.18), co-chair of the annual Student Design Competition since 2012, and a member of Community Noise Working Group WG41 (ANSI S12.9) He is also involved in other organizations including the New Orleans Musicians' Assistance Foundation National Advisory Board for Safe Sounds, National Council of Acoustical Consultants, and Institute of Noise Control Engineering.

David's current research includes methods for testing, control, and perception of low frequency amplified music and holistic approaches to soundscape analysis including a three year study of the City of New Orleans and collaboration with the sociological sciences. He continues to compose and perform music part time as a professional around the southeastern U.S., sails whenever the wind is up, considers air-cooled VW's his bad habit, and is grateful to be happily married to his delightful wife Amy with their four rambunctious teenagers.

## 2016 STUDENT DESIGN COMPETITION RESULTS

The 2016 international Student Design Competition for the Robert Bradford Newman Fund was held at the 171st meeting of the ASA in Salt Lake City, Utah.

The competition challenged participants to design a multipurpose center for the arts, with a focus on the interior acoustics and noise control, and 13 entries were received from all over the world.

Each year entries are of an increasingly high quality and we would like to recognize the effort and thoroughness of the entries.

Special thanks go to our judges for Salt Lake City: Ana Jaramillo, *Olson Sound*, Ian Hoffman, *principal instructor at John Hopkins University*, Stephen Cornell, *CSRA Architecture*.

All of the participants are congratulated on a job well done.

### FIRST HONORS

*(\$1250 Wenger Prize)*

**Alexandra Backstrom, Rakel Norberg & Alexander Sandercock**

Chalmers University of Technology  
Göteborg, Sweden

### COMMENDATIONS

*(Four \$700 Wenger Prizes)*

**Sungbeen Cho**

University of Nebraska - Lincoln  
Lincoln, Nebraska, USA

**Sara Gambacorta & Christopher Springthorpe**

University of Hartford  
Hartford, Connecticut, USA

**Liv Andersson, Ona Forss, & Gunner Agren**

Chalmers Institute of Technology  
Göteborg, Sweden

**Jonathan Matthews, Taylor Blaine, & Caitlin Riggs**

Rensselaer Polytechnic Institute  
Troy, New York, USA

## 2017 STUDENT DESIGN COMPETITION RESULTS

The 2017 international Student Design Competition for the Robert Bradford Newman Fund was held at the 173rd meeting of the ASA in Boston, Massachusetts.

The competition involved the design of a 13,000 square foot multipurpose facility for lecture, theater, and music, and 13 entries were received from all over the world.

All of the participants are congratulated on a job well done

### FIRST HONORS

*(\$1250 Wenger Prize)*

**Kilian Schulze-Forster, Anna Bender, & Amanda Eliasson**

Chalmers University of Technology  
Göteborg, Sweden

### COMMENDATIONS

*(Four \$700 Wenger Prizes)*

**Yu-Tien Yun, Christian Christophorus, & An-Chi Tsai**

National Taiwan University of Science & Technology  
Taipei City, Taiwan

**Hikaru Abiko, Shunk Okamoto, Mayuko Kobayashi**

Shibaura Institute of Technology  
Tokyo, Japan

**Santiago Alvarez-Buylla Puente, Erik Forsberg, & Daniel Jonsson**

Chalmers Institute of Technology  
Göteborg, Sweden

**Jerry Huang & Nathan Keil**

Rensselaer Polytechnic Institute  
Troy, New York, USA



*Newman Medalist Brad Postian (Roger Williams University) with faculty advisor Jeffrey L. Staats*

## SPECIAL FEATURE: COFFEEN BEGINS WELL- DESERVED RETIREMENT



Bob Coffeen and Liz Lamour Croteau at the University of Kansas School of Architecture, Design & Planning Master's Hooding Ceremony May 2012

Bob Coffeen's classroom, nestled among mature flowering trees and the hilly Lawrence, KS landscape, in Marvin Studios always seemed to buzz with activity. Even when class wasn't scheduled, students in Bob's advanced studio for upperclass undergraduate and graduate students focused on real consulting work. There might be a "gymacafatoruium" (a room which is used as the gym, cafeteria, and auditorium) one day, or a lecture hall on campus the next. Students worked together to model the acoustics of a room, analyze data gathered in the field, and build loudspeakers or absorption panels out of thin slices of bamboo.

One could call Bob a "hoarder" of sorts, but every piece of acoustical treatment and construction material served a purpose in his classes. In one of his environmental noise classes, Bob enlisted students to help him carry two 6-foot pieces of metal duct to class from his lab; one piece lined and another unlined. During this class, he demonstrated the difference in noise reduction between a lined and unlined duct.

One of Bob's favorite sayings, "there's more to sound than what you hear," came to life during his lectures and presentations. He focused on bringing real world problems to the classroom, and giving real world examples to his students to discuss and work on. Field trips around campus to observe acoustical phenomena were part of every course, and opportunities to travel off campus to Kansas City, Omaha, and Topeka to take measurements, attend the opera or symphony, or tour concert halls became annual traditions. Once in 2012, Bob arranged a flight on a 4-seat Beech Bonanza 35 with an acquaintance for himself and two graduate students to Sioux Center, IA to take reverberation measurements at a college performance center. He claimed it was to shorten the trip to one day, but everyone knew it was an excuse for him to fly a plane again (which he did!)

Bob began his second career in 1992 by joining the faculty at the University of Kansas. What started as a guest lecturer appearance turned into teaching 10 courses focusing on acoustics of buildings, including room acoustics, architectural noise control,

and electroacoustic sound reproduction. Bob also had at least one or two graduate students to advise annually, as his reputation as an educator lead him to become a top choice for incoming acoustics graduate students. As a result of these accomplishments, he was awarded the Rossing Prize in Acoustics Education in 2011 by the ASA.

Every class with Bob was an adventure, and his alum reflect fondly on their time at KU. His passion and gift for teaching left an indelible imprint on his students through his 25 years of teaching, and motivated several to pursue careers in acoustics upon graduation. A handful of his former students recently got together online, and a few shared their thoughts on the education they earned from Bob:

*Bob taught me to be a consultant. Beyond just the science of acoustics, he demonstrated by example how to interact with the client and design team and how to work together towards a common goal.*

Eric McGowan  
MA Architecture, Class of 2015  
2015 Newman Medalist

*As a professor and mentor, Bob Coffeen always had my best interests in mind while guiding my academic progress into the professional world. Today, Bob's passion and knowledge of architectural acoustics continues to inspire me in my everyday work.*

Shane Jerome Kanter  
BA Architecture, Class of 2010  
MA Architecture, Class of 2011

*I am extremely grateful for Bob's generous support of my education and career. He introduced me to acoustics through his "Listening to Architecture" class, and I have been a believer ever since. Bob is an invaluable mentor and exemplary role model. Thank you, Bob!*

Lauren M. Ronsse  
BA Architecture, Class of 2006  
2005 Newman Medalist

*I certainly would not be where I am today without Bob's willingness and eagerness to share his knowledge, spread his love for acoustics, and connect his students with professionals in the industry. Benefits from his contributions are evident throughout both the practicing and academic realms of acoustics.*

Ian Patrick  
BS Architectural Engineering, Class of 2014  
2014 Newman Medalist

## CELMER & VIGEANT ELEVATED TO NEWMAN FUND CO-CHAIRS

The Newman Fund is switching to a trio of co-chairs with a 3 year rotation. Bob Celmer joined Carl Rosenberg and Lily Wang beginning with the Honolulu ASA meeting in December 2016, and Michelle Vigeant has replaced Carl Rosenberg as co-chair beginning with the Boston ASA meeting in June 2017.

This adjustment will help shift responsibilities and leadership roles to other members of the Advisory Committee.



### Bob Celmer

Bob is the Program Director for two undergraduate engineering degree programs at The University of Hartford: The BSME-Acoustics Concentration and unique BSE Acoustical Engineering & Music. His students have won the Student Design Competition twice and have received commendations in 3 out of 4 attempts. He has also supervised senior projects that earned Newman Medals in 2003, 2009, 2010, and 2014.

Bob has been an active contributor to the ASA, serving on the Education Committee since 1984, Regional/Student Chapters Committee since 2003 and Newman Fund Advisory Committee since 2009. He was named a Fellow of ASA in 2014.

To add to his growing collection of accolades, Bob will be awarded the Rossing Prize in Acoustics Education at the December 2017 ASA meeting in New Orleans.



### Michelle Vigeant

Michelle earned a Newman Medal in 2006 under the advisement of Lily Wang while pursuing graduate studies at the University of Nebraska-Lincoln. After completing her graduate studies, Michelle became an assistant professor at the University of Hartford. During her time at Hartford, Michelle had the opportunity to work with many talented students in the acoustics program, a number of whom received Newman Medals for their research projects.

Currently an assistant professor at The Pennsylvania State University, Michelle works with a handful of outstanding graduating students. The move to Penn State stemmed from Michelle's desire to pursue more research, which lead to the formation of the Sound Perception and Room Acoustics Laboratory (SPRAL).

Michelle is an active member of the ASA, having served as one of the co-organizers of CHRG Sante Fe in July 2010, co-chairing ASA meeting sessions over many years, and participating in several committees, including the technical committees on architectural acoustics and noise, Women in Acoustics, and the Committee on International Research and Education.

## THANK YOU, CARL!

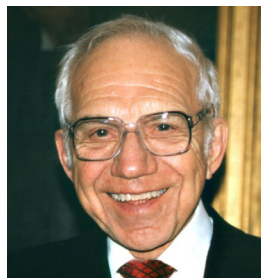


Carl Rosenberg was among the group of founding members of the Robert Bradford Newman Student Award Fund, and has served as co-chair since the Fund became an official ASA committee in 2002.

A student of the late Bob Newman, Carl is the embodiment of the mission of the Fund; his work and advocacy in acoustics education has affected not only his students but Newman Medalists as well, many of whom have gone on to have successful careers in acoustics and higher education.

Thank you, Carl, for helping to create and maintain the Newman Fund so future generations of acoustics students may benefit from an award associated with your mentor and teacher; Bob Newman.

## TRIBUTE FOR LEO BERANEK SEPT. 14, 1914 - OCT. 10, 2016



Leo Beranek has been described as a modern day renaissance man, and was known to many as an expert in acoustics. His extraordinary life included roles as a teacher, consultant, author, and almost everything in-between.

His autobiography, *Riding the Waves*, recounts his childhood in Iowa and later journey to Cambridge, Massachusetts to complete graduate studies at Harvard. Upon graduation and the end of WWII, Leo remained in Cambridge to help found Bolt, Beranek, and Newman; an acoustics and technology firm.

Leo contributed to the design of many performing arts venues, and dedicated one of his numerous books to the acoustics of concert halls and opera houses. He was still writing and active in the acoustic community near to the time of his passing.

The recipient of several awards and honors in both acoustics and the scientific community at large, Leo was also interested in the continuation of education in acoustics. He enjoyed speaking with students and sharing in their passion for acoustics.

Leo was a friend and mentor to many, and will be greatly missed.

## GBC HOSTS BENEFIT FOR FUND; PREVIEWS NEWMAN TAPES

The Greater Boston Chapter of the ASA hosted a benefit event to raise funds for the Newman Fund on June 5, 2017 at Acentech in Cambridge, MA.

Attendees enjoyed a social hour before being ushered into the presentation area for the main event: a preview of Bob Newman's lectures at MIT.

GBC Chair Liz Lamour Croteau, a past Newman Medalist, began the preview with a description of the Newman award, including a physical description of the medal and how the award positively affects the recipients. She also encouraged everyone in attendance to donate to the Fund.

The MIT lecture previewed covers concert hall design, and specifically the shape of concert halls. It is evident from the beginning that Bob Newman was a captivating and enthusiastic professor, and audible giggles from the audience are an indication that he used humor as a tool to keep his students engaged.

## NEWMAN FUND CELEBRATES 30 YEARS AT ASA BOSTON



The Newman Fund hosted an anniversary social and fundraising event at the spring ASA meeting in Boston on June 26, 2017. It was a celebration to mark 30 years of Newman Medalists, and to honor those who helped, and continue to help, make the awards possible.

Co-chair Lily Wang greeted guests at the door and gathered donations in exchange for a flash drive of some Bob Newman MIT lectures. Full audio and lecture transcriptions will be available online once the project is complete.

Outgoing Co-Chair Carl Rosenberg reflected on Bob and the recent passing of his wife Mary, another founding member of the Fund. He then introduced a special guest at the event, Bob and Mary's son Brad Newman. Brad shared a few words about his father, and enjoyed meeting and socializing with many ASA members.



Newman Fund celebration attendees acknowledging Brad Newman (center, hand raised) at the Newman Fund 30th Anniversary Event in Boston

## ROBERT BRADFORD NEWMAN STUDENT AWARD FUND

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Mary Shaw Newman (1928 - 2016)

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Lily Wang\*, Co-chair  
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Michelle Vigeant\*, Co-chair  
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\* Past Newman Medalists

### SPONSORS:

The Newman Fund is part of the Acoustical Society Foundation Fund under the aegis of the ASA Technical Committee on Architectural Acoustics. The Fund is honored to be supported by the acoustics community through personal contributions, the support of the Advisory Committee, and outstanding Corporate and Professional Sponsors. We would like to extend our sincere gratitude to the individuals and organizations that make this fund possible.

**The Fund encourages donations during the year. Tax deductible donations can be made to:**

The Robert Bradford Newman Student Award Fund  
c/o The Acoustical Society of America  
1305 Walt Whitman Road, Suite 300  
Melville, NY 11747-4300

Tel: 516-576-2360

Fax: 631-923-2875

Email: [asa@acousticalsociety.org](mailto:asa@acousticalsociety.org)

**Donations can also be made securely online at:**

<http://www.newmanfund.org/sponsors/>

