

ROBERT BRADFORD NEWMAN NEWSLETTER 2011

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

FUND'S 2011 YEAR AT A GLANCE

December 31, 2011 completed another successful year for the Newman Fund. Newman Medals were awarded to 13 students, bringing the total to 240 medals awarded at more than 55 schools of architecture, engineering, and music throughout the world since the program began in 1985.

Six student teams received Harry Wenger prizes in 2011 for their meritorious design work, juried and displayed at the ASA Student Design Competition held at the 161st meeting of the Acoustical Society in Seattle, WA.

Applications for the next Schultz Grant to be awarded in 2014 are due by December 31, 2013. Check newmanfund.org for announcements.

The appreciation of the Advisory Committee is extended to students, teachers, consultants, as well as other professionals and supporters whose extraordinary voluntary efforts make the work of the Fund possible and thoroughly enjoyable. Continuing appreciation is extended to the staff at the Acoustical Society in Melville, NY who help The Fund's operation run so seamlessly.

Mary Shaw Newman

Carl Rosenberg

Bill Cavanaugh

2012 NEWMAN FUND CONCERT UPDATE

This year's annual Newman Fund Benefit will feature Professor Ted Ducas of Wellesley College, who will talk about the pedagogy of his course "The Physics of Music", wherein students learn about a range of topics from how musical instruments work to architectural acoustics.

The Benefit will be held on the evening of Wednesday, May 16th at the offices of Acentech Inc. in Cambridge, MA. Refreshments will be provided before and after the talk.

Please check the ASA Greater Boston Chapter website (gbcasa.org) for further details. We expect it to be a wonderful evening!

13 NEWMAN MEDALS AWARDED IN 2011

During 2011, 13 students were awarded Newman Medals. The medalists, their schools and their research theses or senior projects follow:

Isaac Old

Rensselaer Polytechnic Institute
"Transmission loss measurement - a scale model approach"

Emily Garber

Virginia Polytechnic Institute
"Chamber hall threshold design and acoustic surface shaping with parametric modeling"

Paul L. Sim

University of Nebraska at Lincoln
"Difference threshold of reverberation time using computer modeled reverberation and adaptive psychophysical testing"

Angela H.M. Van der Heide

Technical University of Eindhoven
"The acoustics of orchestra pits - a case study of the Muziektheater, Amsterdam"

Cameron Fackler

Rensselaer Polytechnic Institute
"Bayesian parameters estimations of porous absorbing materials in architectural acoustics applications"

Vanessa Li

Rensselaer Polytechnic Institute
"A binaural model for predicting speech intelligibility in enclosed spaces using noise and reverberation suppression mechanisms"

Nathan Firesheets

Georgia Institute of Technology
"Sound transmission of aircraft noise in residential dwellings"

Adelle York

University of Oklahoma
"Chamber music hall design and research of furniture as transformational acoustic wall panels"

Sheldon Walters

London South Bank University
"The potential of a vacuum to provide noise control measures in an architectural acoustic context"

Michael Moeller, Jr.

Georgia Institute of Technology
"Soundscapes of military hospitals"

Sang Bum Park

University of Florida
"Soundscape of worship spaces"

Adam D. Bettcher

University of Florida
"Soundscape based evaluation of sounds in a diverse acoustical community"

John Zeman

London South Bank University
"The measurement and evaluation of bespoke 3D absorptive panels - a comparative analysis" *

* Medal received in 2010

SPOTLIGHT ON FUND ADVISOR NING XIANG



Ning Xiang earned his Bachelors of Electrical Engineering in 1981 from Tianjin University in China. He went on for graduate study at Ruhr University in Bochum, Germany and earned a Masters degree in 1986. Ning earned a Doctorate of Engineering from Ruhr University Bochum in 1990 under the supervision of Professor Jens Blauert, and it was at this time that he began his research in architectural acoustics, which focused on binaural scale modeling and room-acoustics measurement techniques using coded signals.

After earning his Doctorate, Ning joined HEAD Acoustics, where he developed a binaural room-acoustic measurement and evaluation technique.

SPOTLIGHT (CONTINUED)

In 1995, Ning published a paper in the Journal of the Acoustical Society of America (JASA) which established a new method for evaluating reverberation time from the Schroeder integration, and resolved problems with the conventional fitting approach based on least-squares. This paper and his previous work using coded signals led to a lifelong collaboration with Dr. Manfred Schroeder, who showed great interest in Ning's work.

Other great acousticians who have had a profound influence of Ning's career path were Dr. Dah-you Maa and Dr. Leo Beranek.

In 1997, Ning spent a year at the Fraunhofer Institute in Stuttgart, Germany. Dr. Xiang joined the US National Center for Physical Acoustics in 1998, where he conducted research on acoustic-to-seismic coupling for landmine detection funded by the US Army. A current research interest in Bayesian analysis has recently been extended to a number of room acoustics applications.

Ning has always been actively involved in ASA activities, and has organized a series of special sessions for the Technical Committees on Architectural Acoustics and Signal Processing in Acoustics. In 2000, he invited Dr. Schroeder to deliver the keynote paper of the special session on Coded Signals in Acoustics Applications. He has served as an Associate Editor in the Architectural Acoustics section of JASA since 2004. This year Ning was elected Chair of the ASA Technical Committee on Signal Processing in Acoustics.

Dr. Xiang joined the Graduate Program in Architectural Acoustics at Rensselaer Polytechnic Institute (RPI) as a Professor in 2003, where he has been the Director since 2005. Under his directorship, the RPI Acoustics Program has grown rapidly. In 2005, Ning invited Dr. Leo Beranek to visit RPI for a series of lectures, and in 2010 Dr. Beranek presented RPI with his historic collection of acoustics books, an invaluable gift to the Graduate Program.

Dr. Xiang has been very supportive of the Newman Fund, and now sits on the Advisory Committee. Many of his students have been awarded Newman Medals, and several groups of RPI students have participated in and won the ASA Student Design Competition.

Ning wants great acousticians like Beranek, Maa, Schroeder and Blauert to inspire his RPI students to dedicate their professional life to productive careers in architectural acoustics.

2011 STUDENT DESIGN COMPETITION RESULTS

The 2011 Student Design Competition was judged in May at the 161st ASA Meeting in Seattle, WA. Thirty two teams competed for six awards, one First Honors and five Commendations. A distinguished panel of acoustical consultants, architects and educators evaluated each entry.

Participation in the competition requires an enormous amount of effort, and each of the entries demonstrated an extraordinarily high quality of student work and understanding of acoustic design. Each of the participants is congratulated on a job well done.

FIRST HONORS

(\$1250 Wenger Prize)

Anna Arvidsson, Malin Landh, Mihkel Toome

Chalmers University of Technology
Göteborg, Sweden

COMMENDATIONS

(Five \$700 Wenger Prizes)

Matthew Azevedo, Kristen Murphy, Vanessa Li

Rensselaer Polytechnic Institute
Troy, New York, USA

Jonas Lundgren, Patrik Thorsson, Dario Bogdanovic

Chalmers University of Technology
Göteborg, Sweden

Tobias Gothfelt, Marcus Stark, Vijendra Bhat

Chalmers University of Technology
Göteborg, Sweden

Sandra Berg, Anna Glansberg

Chalmers University of Technology
Göteborg, Sweden

Erik Allinger, Fredrik Aspöhl, Simen Torquist

Chalmers University of Technology
Göteborg, Sweden

2012 STUDENT DESIGN COMPETITION AT ASA IN HONG KONG

The 163rd ASA meeting in Hong Kong (May 13-18, 2012) will host the annual Student Design Competition. The design problem is described on the Newman Fund website (newmanfund.org), and in the program for the meeting.

Through the continuing generosity of the Wenger Foundation, there will again be one First Honors Wenger Prize of \$1250, and four Commendation Wenger Prizes of \$700 each, awarded to outstanding student design team posters, selected by a jury of distinguished professionals.

Please contact Bob Coffeen at the University of Kansas (coffeen@ku.edu) for further information and details of the Student Design Competition program.

2012 SCHULTZ GRANT

Six outstanding applications from around the world were submitted for the 2012 Schultz Grant. Proposals were reviewed by a committee including Bob Coffeen and Ning Xiang, and selected based on improvements to teaching methods and creation of new curricula in architectural acoustics.

The Fund is pleased to announce Michael Ermann of the Virginia Tech School of Architecture as the recipient of the 2012 recent Schultz Grant. Mr. Ermann's proposal to "Create an Animation Illustrating Room Acoustics" was selected because of its potential to develop improved teaching methods and new curricula.

The Review Committee thanks all applicants for the 2012 Schultz Grant:

Luis Gomez Agustina
London South Bank University

Daniel Butko
University of Oklahoma

Michael Ermann
Virginia Tech School of Architecture

Miriam Kolar
Stanford Center for Computer Research in Music and Acoustics (CCRMA)

Glenn Sweitzer
Case Western University

Lucky Tsaih
Acoustical Design Collaborative, Ltd.

2014 SCHULTZ GRANT

Applications for the next Schultz Grant to be awarded in 2014 are due by December 31, 2013. Visit newmanfund.org for application information.

NEWMAN MEDALIST APPOINTMENTS IN 2011

Yun Jing, a 2007 Newman Medalist has been appointed as an Assistant Professor in the Mechanical Engineering Department at North Carolina State University.

He teaches acoustic radiations and solid mechanics, and is doing research on architectural acoustics, acoustic meta-materials, nonlinear acoustics, and biomedical ultrasound.

CELEBRATING 25 YEARS OF NEWMAN FUND AWARDS IN ARCHITECTURAL ACOUSTICS



On May 24th, 2011 at the 161st Meeting of the Acoustical Society in Seattle, a special technical session of invited papers celebrated the 25 years that have elapsed since the first Robert Bradford Newman Student Medals were awarded in 1986 to students for merit in the study of architectural acoustics.

Bob Newman was a gifted teacher in architectural acoustics on the faculties of both the MIT School of Architecture and the Harvard Graduate School of Design as well as a popular invited lecturer at numerous schools of architecture throughout the world. Several of his former students including this author serve on the Newman Fund Advisory Committee and presented papers in the 25th anniversary session.

Bob was also a founding principal of the pioneering acoustical consulting and research firm, Bolt Beranek and Newman (BBN), which grew rapidly from its formation in 1948 to provide acoustical consulting assistance for the new United Nations headquarters in New York. BBN's plethora of new and interesting assignments in building acoustics provided Bob with a never ending supply of stories to illustrate fundamental principles in architectural acoustics.

I often wondered where Bob acquired his unique highly effective teaching style until I became acquainted early in my own consulting career with the late Dr. C.P. Boner with whom Bob had studied while obtaining his BS and MS degrees in Physics at the University of Texas at Austin. Once a student heard explanations of the simplest to the most complex acoustical concepts, often colored with humorous application examples, from either one of these extraordinary teachers they would never forget their essential teaching point!

Sadly at the peak of his teaching and consulting career Bob Newman succumbed to a sudden and unexpected aortic aneurism on October 2, 1983. Shortly after Bob's death a group of his friends and colleagues met periodically to see if there was some way that Bob's memory could be honored as well as continuing his self imposed teaching mission to "spread the word" in architectural acoustics.

Bob constantly expressed the idea that, if architects are to produce really "well designed" buildings they must be exposed to at least one basic course covering the fundamentals of architectural acoustics, preferably during their academic years or early in their professional practice.

When the late Dr. Richard Bolt organized the first program in architectural acoustics at the MIT School of Architecture in the early 1950s, there were perhaps no more than six formal courses in architectural acoustics throughout the US. By the time of Bob's death the number of schools with courses in architectural acoustics had more than doubled, with many taught by Bob or his former students as well as consulting colleagues at BBN.

Fulfillment of the growing need for effective courses in architectural acoustics for all those concerned with designing and engineering buildings was the primary impetus for establishing the Robert Bradford Newman Student Award Fund. As of the 25th Anniversary celebration the Newman Student Award Fund has evolved into three distinct programs:

Newman Student Medals - for merit in the study of architectural acoustics.

Schultz Grants - for advancement of education in architectural acoustics.

Wenger Student Design Prizes - for excellence in acoustical design.

Newman Medals

Through 2011, Newman Medals have been awarded to 240 students at more than 55 schools of architecture, architectural engineering and at a few schools of music throughout the world where there is at least one basic course of study in architectural acoustics and opportunities to apply fundamental acoustical design principals in their student work or applied research.

The medal was designed by Richard H. Bolt and at the request of Bob's wife, Mary Shaw Newman, Dick incorporated an image of a tuning fork which Bob often used for demonstrating basic acoustical principles. The final design, which depicted sound waves radiating outward from the tuning fork also depicted "the expansion of knowledge" in acoustics as mandated in the by-laws of the Acoustical Society.

Many past Newman medalists have gone on to successful careers in architectural practice, serve on faculties at universities or have opted for careers in acoustical consulting. Several past medalists, Lily Wang, Andy Carballeira, Linc Berry, Donna Ellis, and Michelle Vigeant serve on the Newman Fund Advisory Committee which meets regularly at ASA meetings. The Advisory Committee reports to and is structured as a sub-committee of the Technical Committee on Architectural Acoustics with administrative support from the ASA office under the very capable direction of Elaine Moran and Louise Vollmer.

Each year some 10-15 Newman Medals are awarded to individual students along with a cash stipend and several books on architectural acoustics from the ASA Bookstore. It is expected that the number of institutions qualified to offer the medal as well as the number of students nominated for Newman Medals will continue to increase in the years ahead.

Schultz Grants

Theodore John (Ted) Schultz was a colleague and friend of Bob Newman, a gifted researcher and Technical Director of the Architectural Technologies Division of BBN. Ted was also a charter member to the Newman Fund Advisory Committee. He passed away suddenly and unexpectedly of a heart attack in 1988 and through the generosity of his many friends, relatives and colleagues the Advisory Committee established the Theodore John Schultz Grant program. A modest grant of \$3000 is awarded about every 2 or 3 years from the Newman Fund to a teacher or researcher in architectural acoustics to partially support the development of a teaching aid or research in architectural acoustics education.

The first Schultz Grant was awarded in 1990 to Prof. Gary W. Siebein, at the University of Florida School of Architecture to partially support the production of a videotape "Demonstration of Basic Acoustical Principles using Scale Models." The 10th Schultz Grant was awarded to Prof. Ralph Muehleisen of the Illinois Institute of Technology toward developing "Virtual Acoustic Instrumentation Software for Teaching Architectural Acoustics."

Wenger Prizes

Harry Wenger was a music educator in Owatonna, MN who invented and produced several devices that were useful in the teaching of music. The popularity and increasing sales of his inventions soon led to founding of the Wenger Corporation in 1946 which has become a large manufacturing operation and major employer in Owatonna. In the early 1960s Harry engaged Bob Newman as a consultant on Wenger's first portable music shells as well as other equipment, materials and systems Wenger had planned to develop to enhance the acoustical environments of music rehearsal and performance spaces.

The shared passion for music and acoustics still permeates the Wenger Corporation today, as well as its relationships with the Acoustical Society and members of the acoustical consulting profession. Largely through the efforts of Technical Director Ron Freiheit, the Wenger Corporation established a non-profit foundation following Harry Wenger's death and funded by the Wenger Corporation. The Wenger Foundation has been a continuing supporter of the Student Design Competition, giving annually for the First Honor Wenger Prize of \$1250 and four Commendation Wenger Prizes of \$700 each.

CELEBRATING (CONTINUED)

The presenters at the 25th Newman Award Fund technical session in Seattle provided additional information and detail on the Fund's three major programs as well as experiences with particular programs at their schools. The papers are being assembled and will be posted soon on the Newman Fund website.

Following the technical session a reception, complete with an anniversary cake, was held in the Cirrus Room in the Sheraton Seattle Tower. Clearly the first 25 years of the Newman Fund has made great strides in expanding knowledge in architectural acoustics throughout the educational institutions that produce professionals who design, engineer and contribute toward achieving satisfactory acoustical environments in and around buildings. Perhaps the next twenty five years will see the building industry move closer to fulfillment of Bob Newman's vision where all professionals involved will have at least a conceptual understanding of the fundamentals of architectural acoustics needed to produce truly well designed buildings.

William J. Cavanaugh
billcavanaugh@alum.mit.edu

[This article has been edited and reprinted with the permission of the author. The full article appears in *Echoes, Volume 21 (Number 3)* - Ed.]

A TRIBUTE TO RON MCKAY

Ronald L. McKay, our longtime colleague, friend and member of the Newman Student Award Fund Advisory Committee died on December 8th, 2011 in Los Angeles. Ron was a widely acknowledged expert in architectural acoustics although perhaps best known and appreciated by design professionals for his work in his special passion buildings for the performing arts. For nearly three decades he served in senior consulting and management positions in the Cambridge, Chicago, Los Angeles offices of Bolt Beranek and Newman Inc. before co-founding the firm of McKay Conant Brook in 1987 which became McKay Conant and Hoover Inc. in 2007. Ron was born on 26 November 1932 and after his early years in Kansas he earned his Bachelor of Architecture degree at MIT in 1954 where he was introduced to architectural acoustics and the inspired teaching of Bob Newman. Ron did advanced studies in acoustics as a Fulbright Scholar at Gottingen University, served as a commissioned officer with the US Army Corps of Engineers and returned to MIT for his MArch degree in 1958. Throughout his studies in architectural acoustics, Ron developed an enviable reputation for his ability to effectively communicate with design professionals and colleagues so necessary for successful collaborative efforts in the performing arts.

Beyond his consulting efforts, Ron taught at the Universities of Illinois, Notre Dame and Southern California and taped an 8-hour television course in architectural acoustics with textbook supplements for university courses. He presented numerous papers before the Acoustical Society of America, the American Educational Theatre Association, the American Institute of Architects, the American Institute of Designers, the American Society of Heating, Refrigeration and Air Conditioning Engineers, The Audio Engineering Society, the American Symphony Orchestra League, the Construction Specifications Institute, the Illuminating Engineering Society, the Institute of Environmental Sciences and the US Institute for Theatre Technology. Several of his 25 major consulting assignments in the performing arts earned Merit and Honor Awards from the American Institute of Architects, the US Institute for Theatre Technology and from several Historic Preservation Foundations. Ron was a Fellow in the ASA College of Fellows and was awarded the AIA's prestigious National Honor Award for Collaborative Achievement.

Ron is survived by his loving wife Sally and sons Kenneth and Andrew and two grandsons. Although Ron was unable to attend the 25th anniversary of the Newman Student Award Fund at the spring 2011 meeting of the Acoustical Society in Seattle he shared totally in the objectives of the Fund and Bob Newman's vision that one day every school of architecture and architectural engineering throughout the world would have basic courses in architectural acoustics and opportunities to apply its principles in their student designs and later in their professional practices.

CAVANAUGH AND WANG ACCEPT NEW POSITIONS ON ADVISORY COMMITTEE

Bill Cavanaugh has served the Newman Fund as Co-Chair since the inception of the Fund over twenty five years ago, and has been a dynamic proponent of the goal of the Fund to increase the effectiveness and impact of teaching acoustics to the architectural profession.

Bill has accepted the role as Co-Chair Emeritus and will continue to offer his advice and guidance, while passing the baton of Co-Chair on to Professor Lily Wang.

Lily herself is a Newman Medalist, and has inspired several of her students to continue their professional degree in teaching and research. We welcome her leadership and support for the future of the Fund.

ROBERT BRADFORD NEWMAN STUDENT AWARD FUND

Advisory Committee:

Mary Shaw Newman, Honorary Chair
William Cavanaugh, Co-chair Emeritus
Carl Rosenberg, Co-chair
Lily Wang*, Co-chair
Andrew Carballeira*, Newsletter Editor
acarballeira@driftwoodaudio.com

Lincoln Berry*	Timothy Foulkes
Christopher Blair	Ronald Freiheit
David T. Bradley*	K. Anthony Hoover
Richard Campbell	J. Christopher Jaffe
Robert Celmer	Kenneth Roy
Robert Coffeen	Gary Siebein
Stephen Dance	Michelle Vigeant*
Peter D'Antonio	Ewart Wetherill
M. David Egan	Ning Xiang
Donna A. Ellis*	

* Past Newman Medalists

SPONSORS: The Technical Committee on Architectural Acoustics (TCAA) of the Acoustical Society of America (ASA)

with the cooperation of:

Acoustical Society of America:
Committee on Education in Acoustics
Committee on Regional Chapters
Greater Boston Chapter
Technical Committee on Noise
Association of Collegiate
Schools of Architecture
Boston Architectural College,
School of Architecture
Harvard University,
Graduate School of Design
Institute of Noise Control Engineering
Massachusetts Institute of Technology,
School of Architecture and Planning
National Council of Acoustical
Consultants
Rhode Island School of Design,
Division of Architectural Studies
Riverbank Acoustical Laboratories
Shure Incorporated
Wenger Corporation

Please address correspondence to:

Newman Student Award Fund / ASA
2 Huntington Quadrangle, Suite 1NO1
Melville, NY 11747-4502

Tel: 516-576-2360
Fax: 516-576-2377
Email: asa@aip.org

