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**AES 2006-2007  
Chicago Section Officers:**

**CHAIR**  
Charles King  
630-285-5868 W  
Charles.King@knowles.com

**VICE CHAIR**  
Jeff Segota  
847-600-8634 W  
segota\_jeff@shure.com

**TREASURER**  
Mike Lester  
847-600-8952 W  
lester\_michael@shure.com

**SECRETARY**  
Nick Kettman  
847-600-8908 W  
chicago.aes@gmail.com

**WEBMASTER**  
Robert Zurek  
847-523-5399 W  
w15754@email.mot.com

**COMMITTEE**

Gary Khan  
gary@pegasusrecording.com

A.J. Bautista  
ajb@ajbaudio.com

Marty Reiling  
mreiling@sbcglobal.net

Robert Schulein  
schulein@ameritech.net

Giles Davis  
giles.davis@motorola.com

Brad Olson  
brad.olson@knowles.com

Kerry Haps  
Archmart@comcast.net

Jon Halverson  
halverson\_jon@shure.com

Jon Boley  
jdb@jboley.com

## Audio Engineering Society Chicago Section Meeting

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**Thursday, January 31, 2008, 7:30 PM**

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### **Analog Audio Console Design Presented by Mike Stoica**

**Meeting Location and Dinner:**

Holiday Inn North Shore, 5300 Touhy Avenue, Skokie, Illinois (at the northeast corner of Touhy Ave and Niles Center Road)

Dinner (optional) will begin at 6:30pm. Reservation required, contact Treasurer Mike Lester at lester\_michael@shure.com by Monday, January 28. A pasta bar will be provided. Price is \$24 for nonmembers, \$19 for members and students.

**About the Presenter:**

Mr. Mike Stoica is President and CEO of Neotek Corporation, a professional audio designer and manufacturer based in Lake Zurich, Illinois. His electronic education and experience was initially in his native Romania, then still under Soviet rule. At Bucharest's Institute of Telecommunication Research, he trained for work as an RF-Microwave Telecommunication Electronics Engineer. During that time, he developed a passion for audio and analog design, involved primarily in the design of preamplifiers, power amplifiers and speakers.

After successfully designing and building several systems, he left Romania as a political dissident, seeking America's freedom in 1985. His love and pursuit of great audio drew him to his first job as a quite overqualified bench technician at Neotek, a highly regarded designer & manufacturer of recording and mixing Consoles in Chicago. Though still learning to communicate in English, he worked long hours beyond his job description to familiarize himself with all aspects of the company's uniquely internal design, engineering and manufacture operation.

Working his way up to Production Manufacturer in the next few years, he began a project with the approval of the then founding president. This was an attempt to build a complete console in his small studio apartment in a low cost area of town. Until that point, several employees had attempted such an endeavor but never came close to finishing even one console. Working after his weekday job and on weekends for nearly two years,

literally sleeping under or next to the large frames, he completed the two most treasured consoles in the product line, including the largest and most complex model, the "Neotek Elite". After an awkward meeting certifying his ownership of these massive undertakings with his amazed boss, he parlayed these projects as his entry into the studio business.

In 1986, while still working his way up the ladder at Neotek, he became a partner of "Future Studios", a professional 24-track recording studio, where he created a home for his consoles. There he added custom upgrades to the design of his "Series II", still in daily operation at Pegasus Recording Company, which eventually purchased the operation. The new owner (previous Section Chair, Gary Khan) helped him sell the other console to an area television commercial production company.

The experience helped him understand the recording studio side of the business and his eventual customer, the professional recording engineer. In 1989, he left Neotek and formed Sytek where his first product resulted from those earlier Series II upgrades and became the still successful MP-4ii, a high-fidelity, four-channel microphone preamp. In 2000, he bought his first employer, Neotek!

Other projects in equalizer and console layouts led to other products and design consultation for other Commercial Recording Studios. Later product development utilized DSP technology and software-based digital control systems. Sytek Audio Systems is now located at 1148 Rose Road in Lake Zurich IL, 60047. They can be reached at (847) 550-0100 or on the web at [www.sytek-audio-systems.com](http://www.sytek-audio-systems.com).

**About the Presentation:**

Mr. Stoica will address the continued relevance of current analog audio console design. He will discuss advantages and disadvantages of current high-fidelity digital audio systems. Will the pure analog console and other devices continue to exist or will they slowly be eclipsed by maximum fidelity systems? He invites attendees' questions and comments in what should be a stimulating discussion on the pursuit of the highest-quality yet reliable audio systems where "costing down" is a lower priority!

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**Upcoming Meetings:**

DATE: Thursday, March 6, 2008

TOPIC: Tour of Audio Facilities at Willow Creek Community Church

PRESENTER: TBA

LOCATION: Willow Creek Community Church, 67 East Algonquin Road, South Barrington

TIME: TBA

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**December Meeting Report:**

At the Chicago Section's December meeting, David Prince of Tymphany Corporation discussed his work on the Linear Array Transducer (LAT). The Tymphany LAT is a departure from traditional cone transducers which displace air using a single diaphragm. In contrast, the LAT

features a linear array of smaller transducers which can be arranged in a stacked formation, resulting in a more efficient geometry. Such a driver can be utilized where larger, conventional drivers normally do not fit – for example in the sound bar of a flat panel television (FPTV). Mr. Prince worked as an architectural acoustics consultant for TALASKE in the early 1990s and later studied acoustics at Penn State and The University of Florida. He has worked alongside engineer and designer Bob True at International Jensen, True Technologies, and presently at Tymphany Corporation.

The Tymphany LAT was designed for use in consumer products such as FPTVs, iPod docks, and other devices which generally only allow for narrow and shallow speaker enclosures. The first product to feature the LAT was an automotive subwoofer produced by Alpine Electronics which was designed to be placed in the space behind the seat in a truck. One particular advantage of the LAT design is the use of opposing end motors which essentially cancels all vibration along the displacement axis. Despite the benefits of the LAT design, however, Tymphany has encountered challenges such as the increasing price of neodymium magnets, the ever-decreasing thickness of FPTVs, and the industry's tendency to choose convenience and simplicity over sound quality.

Mr. Prince demonstrated the LAT technology by offering a comparison of two similarly-sized FPTV sound bars: one using conventional speaker technology, and one which incorporated a LAT. The LAT sound bar, although comprising only 3.7 liters of total enclosure volume, was the obvious winner in terms of low-frequency extension. The Tymphany LAT is the engine behind several high-end speaker brands, including Peerless and ScanSpeak.

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**Employment Opportunities:**

**Sound Devices**

**Embedded Systems Engineer**

We are looking for an experienced Embedded Systems Engineer to develop firmware for professional audio mixers and digital recorders. Minimum of 3 years experience developing embedded systems in C/C++. Offices in Schaumburg, Madison, and Reedsburg WI. Visit our website for more details: [www.sounddevices.com](http://www.sounddevices.com)

**Chicago's Columbia College** is now accepting candidates for Department Chairperson of its 4 year "Audio Arts & Acoustics" Program. For information on this full time, tenure track, faculty position, please refer to this link:

<http://web2.colum.edu/hr/search.results.php?term=audio&search=Search&dept=&limit=5&jobtype=>

**Engineering leadership position for a global company in the commercial electronics industry**

The successful candidate must have:

- RF, audio design expertise, wireless and mixed signal experience
- Experience in a product development environment
- Excellent process and project management skills

Contact: Jade Bishop, Executive Recruiter, The Carter Group, L.L.C.  
251-342-0999

j.bishop@thecartergroup.com  
www.thecartergroup.com

**Senior DSP Engineer**  
**Shure Incorporated, Niles, IL**

Work on cross-functional project teams to design, implement, test and release DSP algorithms for professional audio equipment. Required: BS in EE or CS with emphasis in DSP and minimum 6 years industry experience with C, C++, and DSP assembly language (preferably ADI or TI) software development. Minimum of 4 years experience modeling DSP algorithms using Matlab/Simulink. Experience designing and implementing audio data compression and decompression algorithms. Email resumes to Nieder\_Kathleen@shure.com.  
www.shure.com

**Audio Software Engineer**  
**Day 1 Studios, Chicago, IL**

Experience Level: B.S. in Computer Science, Math, Physics or Engineering. Preferably past video game experience as well. This position will encompass working with audio tools, dynamic streaming music, streaming voice, localization support, DSP processing and other general audio requirements. The candidate should have an understanding of game technology, build systems, and be able to work directly with audio, design, art and programming teams to achieve “supreme audio”.

Contact: Tiffani Sorber, jobs@day1studios.com  
[http://www.day1studios.com/careers\\_a\\_environment.php](http://www.day1studios.com/careers_a_environment.php)

Do you have a job opportunity you would like to publicize? Contact Section Secretary Nick Kettman at [chicago.aes@gmail.com](mailto:chicago.aes@gmail.com) for more information.

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Do you have an idea for a meeting location for the Chicago AES Section? The section is currently considering alternate meeting spaces for future meetings. If you would like to suggest a specific location, please contact Section Secretary Nick Kettman at [chicago.aes@gmail.com](mailto:chicago.aes@gmail.com).