

'Sound sleuths' make the indoors livable

By Penny Wright
special writer

He turned on the switch. Slowly the armature moved upward. The electric motor whirled.

"Do you like that sound?" asked Pranab Saha. As the metal bar continued to rise, he asked, "What do you think about the sound now? Or now?"

To a visitor's ears, the whirling was steady and unchanged. To Saha's trained ears the sounds were different at each interval.

"WE ARE TESTING this power window unit for the manufacturer," Saha said.

"Our job is to model the sounds at all stages of raising and lowering the window. We want to isolate the noise users find objectionable."

"The manufacturer will then rid the system of noise because an expensive car is supposed to have a quality sound."

Pranab Saha, P.E., demonstrated the window unit in the Pontiac offices of Kolano and Saha Engineers Inc., a professional engineering firm specializing in acoustics, noise and vibrations. Its laboratory work is done in Troy.

Saha and co-owner Richard Kolano, P.E., are, in layman's language, "sound sleuths."

"WE CALL acoustics the science of sound. Noise is unwanted sound."

"By investigating and understanding how sound propagates from a particular source, we can design systems to eliminate noise," said Saha, who holds a doctorate in mechanical engineering with an acoustics specialty.



our land
Penny Wright

"Noise can affect the quality of the environment. It can be disruptive and a stress producer. Under extreme conditions it can produce pain."

Saha noted the bad effect noise in the Minneapolis Metrodome has had on visiting baseball teams.

"There are ways to eliminate those noise problems. But I think if the Twins win again, they may not want to change anything," Saha said with a laugh.

THE PARTNERS use a variety of analytical tools to probe for clues to a noise's origins.

In field investigations of noise problems, they carry microphones, a signal amplifier and a precision grade tape recorder.

Back in the lab, they decipher the recordings gathered on-site, using frequency analyzers linked to a computer. "We are able to break up the sounds we record into very narrow bands, and can determine the harmonic structure of a noise," said Saha.

RICHARD KOLANO, who holds a master's degree in acoustical engineering, received the Young Engineer of the Year Award from the Oakland County Chapter of the Michigan Society of Professional Engineers earlier this year.

He was pleased by the recognition of his work.

"For a long time, acoustics has been a low priority item. I believe the profession is starting to get the attention it deserves," he said.

Kolano, who frequently works on acoustical problems in buildings, has observed that "how a building looks seems to be the most important concern. The acoustics receive little attention until noise problems surface."

THE FIRM recently was hired by the City of Rochester Hills to analyze sound problems in its council meeting room.

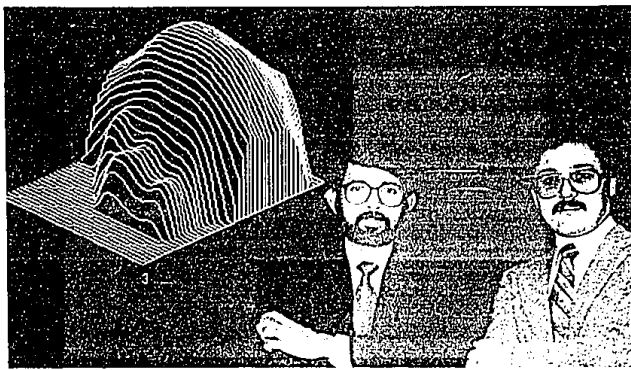
The award-winning facility is highly equipped and has a breathtaking view of the outdoors. But it turned out to be a "room of acoustical horrors" that required an acoustical overhaul to be usable.

"The council chamber had severe echo and sound reverberation problems. Speech was virtually unintelligible in the room," said Kolano.

At the firm's recommendations, the city installed acoustical wall and ceiling panels and renovated the speaker systems.

"Sometimes sound problems are a matter of layout," Kolano said. "I have been involved in troubleshooting noise and sound transmission problems in condominiums. Sometimes relatively simple changes by the architect or builder could have made a world of difference," Kolano said.

NEW BUILDING materials and equipment contribute to the increased noise levels in apartments, homes and offices.



Sound engineers Pranab Saha (left) and Rick Kolano pose in their Troy laboratory with a three-dimensional display of the sound field radiating from a loudspeaker tested at increasingly louder frequencies.

Years ago buildings were constructed with heavy masonry materials that provided natural barriers to sound, Kolano said. "As we have gone to lighter weight construction and more sophisticated ventilation systems, noise transmits more readily through the structure."

The trend to open plan offices with short partitions between work stations often creates equipment and voice noise problems that are not

masked by sound-absorbing ceiling panels.

"In such cases, we can mask sounds by distributing electronically generated random noise through loudspeakers above the ceiling," he said.

THE ENGINEERS observed that much of their work 10 years ago was done because federal regulations had certain noise control requirements.

Now the work is coming from people who are affected by noise problems.

"We are seeing a lot more noise-related activity in the courts, particularly concerning community noise and ground vibration problems," said Saha.

"Communities are becoming more conscious about noise in the environment and realize something can be done about it."

Anderson is new chief circuit judge

Robert C. Anderson this week began a two-year term as chief judge of the 14-member Oakland Circuit Court.

As such, Anderson will direct the administration of the circuit court, supervising caseload management and court finances. He also will represent it in its relations with other courts, government, the bar and the public.

Anderson was a district judge in Waterford Township when he was elected to the circuit bench in 1978. Community activities include Boy Scouts, Oakland County Family Services and the Parent-Teacher Association.

Chief judge pro tempore will be Steven N. Andrews, a circuit judge since 1976. The Bloomfield Hills resident was chief judge in 1978 and a one-man grand juror in 1979.

The county is working on plans for a new courthouse wing, according to administrator Joan E. Young. Plans call for asking the state for two more circuit judges in 1990 and two more in 1992 for a total of 18.

The State Court Administrative Office 1988 report said the Oakland Circuit bench is the most heavily worked, per judge, in the state. Oakland's number of new cases that year was 1,768 per judge, followed by Kent County's 1,561 per judge. The state average that year was 1,008 new cases per judge.

Circuit court handles major criminal cases, major lawsuits and "domestic relations" — divorce, child support and paternity actions.



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Secretarial exam workshops start

Oakland Community College's Business and Professional Institute (BPI) is offering exam-preparation classes for students involved in certified professional secretary (CPS) classes.

"Behavioral Science in Business" began Monday, Jan. 4, and continues through Feb. 8.

Following that, also on Mondays, "Economics and Management" will be offered Feb. 22 through April 25.

Classes will be held at St. Joseph Mercy Hospital in Pontiac.

The college's BPI cooperates with St. Joseph Hospital and the Professional Secretaries International

(PSI), which promotes competence and recognition of secretarial work.

A department of PSI administers a biannual, six-part examination which, if passed, confers the registered service mark CPS as a rating of secretarial proficiency.

In addition to the two examination parts being offered beginning in January, the examination consists of testing in business law, accounting, office administration and communication, and office technology.

Those interested in the classes may obtain registration information by calling OCC at 540-1511.

Juvenile rules studied

The Juvenile Court Committee of the Oakland County Bar Association will present a seminar on the new Michigan juvenile court rules 1-5 p.m. Tuesday, Jan. 19, in Fox & Hounds Restaurant, 1560 N. Woodward, Bloomfield Hills.

The seminar will feature Probate Judges Donald S. Owens of Ingham

County and Randall J. Hekman, both members of the state juvenile court rules committee; and William P. Bartlam, Oakland County probate counsel.

Fees are \$20 in advance, and \$25 at the door. The Bar Association's number is 338-2100.

Economic unit gets state cash

The Oakland County Community Growth Alliance (CGA) has been awarded a \$144,000 state matching grant to help coordinate economic development efforts.

CGAs are public-private coalitions representing business, chambers of

commerce, higher education, utilities, development firms and local governments.

State Commerce Director Doug Ross said nearly \$4.4 million has been allocated for CGAs across the state during the current fiscal year.

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Left: Racerback tank top in Magic Rib, sizes S, M, L; 1600; reg. \$8, sale 6.40. Magic Rib hipster, textured cotton, sizes S, M, L; 11,000; reg. \$5, sale \$4.

Right: Tank top in a 2x2 rib knit, sizes S, M, L; 2200; reg. \$7, sale 5.60. French cut

brief, high cut for a flattering fit, sizes S, M, L; 14,000; reg. 5.50, sale 4.40.

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