Q. Put this question to Franco Nori, and the answer is short and sweet: "Friction among grains."

"When chalk is rubbed against a blackboard, it can produce squeaking noises," says the professor of physics at the University of Michigan, Ann Arbor. "That's the same reason why sometimes compressed sand sings."

The mysterious sound emanating from Lake Michigan's sand dunes has perplexed the ears of beachgoers for years. From W.D. Richardson's 1919 article "The Singing Sands of Lake Michigan" to Nori's own research on sound-producing sand, the effect is regarded by scientists as a natural phenomenon.

But singing? Really? With "singing" being the operative word, the noise resembles more of a whistling sound. Keep your ears alert for a high-frequency squeak that rings in at 1,000 to 3,000 Hz and lasts less than a quarter of a second. The smooth, rounded quality of the lake's quartz sand provides the perfect acoustic conditions. When pressure - from the foot of a strolling beachgoer, for instance - forces the grains to rub together (the technical term is compression-induced shearing), the friction produces the sandy serenade.

Although sands sing best when they are arid, your best chance of hearing a squeak is immediately after the sand has been moistened by water and then dried. There's a debate over why recently washed sands sing more readily, but it's likely that the looser packing of the grains makes it easier for them to rub together.

So, let the melodies of the sand carry the tune on your next beach outing. Send your Burning Question to burningquestion@labournot.com.

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**Bread Time**

LAKE works the late shift with Bit of Swiss baker Tim Foley.

BY PATTI EDDINGTON
PHOTOS BY JOHNNY QUININ

Gaze at the golden brown baguettes, or tear a morsel from the fragrant, crumbly sourdough and you'll be convinced: This is pure art.

Unfortunately, you'll be wrong, says Tim Foley, creator of these mouth-watering wonders and, with wife Pat, owner of Bit of Swiss Pastry Shoppe in Stevensville, Mich. "Baking is science," Foley says. "These are formules, not recipes. This is based on math. It's exact. There is no room for a pinch of this, a bit of that." Unromantic, perhaps, but when the end result is delectable, who's to argue?

There's also the matter of those awards. In 2005 Foley led Team USA to a first-place finish at the Coupe du Monde de la Boulangerie, known as the World Cup of Baking, in Paris. And in 2007, USA Today named Bit of Swiss among the country's top 10 artisan bakeries.

We burned the midnight oil with Foley to see the journey from the first cup of flour to that first hunk.

10 p.m. Foley and four of the baking staff he calls "family" are wearing a light dusting of flour sporting the motto "The proof is in the loaf."