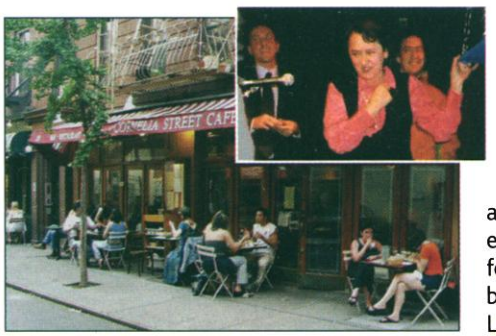
Beat Biology and Folk Physics

Can science ever be truly hip? Nobel laureate Roald Hoffmann and a small band of ambitious colleagues think so. To prove it, they're calling folks who dig science to New York's Greenwich Village, the former stomping ground of Beat poets, hippies, and other cool cats.

Hoffmann and company are organizing a monthly salon—called Entertaining Science—at the trendy Cornelia Street Café to show that research isn't all nerds in lab coats. If the success of the first meeting on 6 January is any indication, they are onto something. More than 70 people crammed into a small cabaret setting, complete with tiny tables and red spotlights, and many were turned away at the door. The theme of the evening was "Thermodynamics and the Meaning of Life." It featured unusual moments such as noted biologist Lynn Margulis reciting Emily Dickinson poems. The rap may have been heavy on the meaning of life and light on thermodynamics, but Hoffmann says the point is to "sneak in some science and yet have fun."



Biologist Lynn Margulis (*top*) waxes poetic during science salon at a New York café.

February's theme will be "What's So Funny About Science?" with a collection of science humorists, followed in March by "The Will to Live and Selfish DNA" with tumor biologist George Klein of the Karolinska Institute in Stockholm. In April, author Diane Ackerman and others will talk about "Art and the Brain, Art on the Brain."

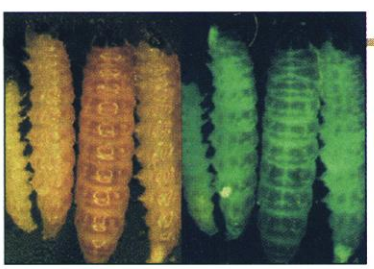
"The general idea is to play with ideas," says Hoffmann, a chemist and poet at Cornell University in Ithaca, New York. The salon takes place at 6 p.m. on the first Sunday of the month, and there is a cover charge.

Perfect Patch?

Most materials scientists would blanch at pouring their high-tech concoctions into a hole in the ground, but ceramicist Arun Wagh of Argonne National Laboratory in Illinois has done just that to smooth out some bumps in the road for his colleagues.

Wagh developed a cement-like substance called Ceramicrete for entombing radioactive and hazardous wastes, but 3 years ago he found another use for the fast-setting ceramic: filling potholes in the roads on the Argonne campus. The material sets in a few hours even at temperatures near freezing, and it resists cracking because it won't absorb water. "That's what makes this material unique," Wagh says. "It has very high strength and a very short setting time." The road patches have survived two winters with no signs of wear, he says.

The Department of Energy spent $5 million to develop Ceramicrete, and the lab has already licensed it to a company that makes road repair materials. But the stuff won't replace cement for most uses, Wagh says, because it's several times more expensive.



Transgenic Moths on the Make

U.S. regulators have given the green light to the first field test of a genetically modified insect. On 11 January the U.S. Department of Agriculture (USDA) approved the release of 2350 genetically modified, glow-in-the-dark moths into cages in a cotton field.

The test will gauge a new way to control pink bollworms, which have decimated cotton crops for decades. For years, USDA and California officials have released millions of irradiated, sterile bollworm moths to disrupt the mating practices of fertile females. But the releases aren't efficient; some 60 irradiated moths are needed for every wild one because the lab-bred moths compete poorly in the field, says insect physiologist Thomas Miller of the University of California, Riverside.

To improve the strategy, Miller and Robert Staten of USDA's Plant Protection Center in Phoenix, Arizona, hope to release hardier, genetically engineered bollworms that father stillborn young. But first the pair will test mutants that produce a fluorescent jellyfish protein (above), making them easier to track as they compete for mates. "Their job is to have a good night. We check up on them in the morning to see how it went," Miller says.

Some environmentalists worry that the foreign gene might mutate or spread to other wild moths. But insect molecular geneticist David O'Brochta of the University of Maryland Biotechnology Institute in College Park agrees with USDA's judgment that "the current experiment poses very little risk."

Making a Stink

President George W. Bush talks of smoking terrorists out of their hiding places, but it may be possible to stink out the bad guys, too. The U.S. military is backing research into substances so foul they could be used in a stink bomb.

Researchers at the Monell Chemical Senses Center in Philadelphia exposed subjects to various scents to find those that were most repugnant. They also created multismell bouquets, because some people are relatively insensitive to certain scents, says Pam Dalton, a cognitive psychologist at Monell. The combinations most likely to make people gag and retch contained skatole, a substance found in feces; sulfur compounds; and fatty acids typically found in vomit, foot sweat, and strong cheese. Those scents "seemed to be easily detected and remarkably hard to get used to," Dalton says.

Stinky substances, which the military calls "malodorants," could be used to disperse crowds without causing the injuries sometimes associated with tear gas and other irritants, says Capt. Joe Kloppel of the Joint Non-Lethal Weapons Directorate at the Pentagon. But Kloppel says the technology isn't yet ripe enough to become a part of the Pentagon's arsenal.

CREDITS: (TOP) CORNELIA STREET CAFÉ; (TOP, INSET) ELIZABETH THOMPSON; (MIDDLE) JOHN J. PELOQUIN; (BOTTOM) BEN MANGOR/SUPERSTOCK