

## A Baroque Biochemist

**On Tuesday** and Friday evenings, biochemist Alexander Konstantinov walks away from his spectrophotometer and picks up a different fine-tuned instrument. He draws the violin to his chin and slides the bow across its special silk strings, creating the richly decorated sounds of early 17th century Baroque music.

Konstantinov, an HHMI international research scholar at Moscow Lomonosov State University, leads the university's chamber orchestra. They play pieces by Johann Hermann Schein, Johannes Rosenmüller, and William Lawes—lesser-known composers who came before Bach, Beethoven, and Vivaldi.

Baroque compositions encourage a feeling of harmony, Konstantinov says. “This music brings a discipline of one’s ego. You feel yourself happy not just when expressing yourself, like many feel when playing a solo part, but feeling yourself a part of the entire ensemble. Inside the baroque orchestra you do not feel either a romantic hero or a small cog within a large score.”

Konstantinov’s passion for music is a life-long infatuation that predates

even his love of science. He first picked up the violin when he was five, with encouragement from his parents. At age six, he passed up an audition for a spot at the Central Music School in Moscow.

“This would have meant a professional music career,” says Konstantinov. But his father had been expelled from Moscow after World War II, moving the family to Saratov, a day trip away. “My parents did not venture to send me alone to boarding school in Moscow,” says Konstantinov.

Still, in Saratov he attended a seven-year “children’s music school” along with regular classes—where he discovered his knack for science, like his mother, a microbiologist, and his father, an expert on water ecosystems. Soon, the time came for him to choose between science and music. “As both my parents were from the scientific world, it happened that I chose science.”

When he began as a student at Moscow State University in 1967, however, he discovered that studying science didn’t mean giving up his violin. That same year, the university established a chamber orchestra, and Konstantinov signed up. He was placed in the last stand of violins.

Over the next 10 years, he moved up, seat by seat, to the front of the



15-person orchestra—eventually becoming the “konzertmeister” of the first violins. In 1991, he took over as director. Among the university scientists playing in the orchestra, four are from Konstantinov’s research group, which studies how cells harvest energy from oxygen molecules.

While the orchestra occasionally plays for university events—including a ceremony for HHMI President Tom Cech a few years ago—his fondest performances are those in which singers join the orchestra. In 1995, they teamed up with a popular philharmonic ensemble to perform odes and semi-operas by English composer Henry Purcell and oratorios by Italy’s Alessandro Scarlatti. These performances included both singing and speaking parts.

Coordinating the musicians with the singers offered Konstantinov a new challenge. The results—the first authentic performances of many of these masterpieces in Russia—were well worth it, he says.

—Sarah C.P. Williams



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ALEXANDER KONSTANTINOV

WEB EXTRA: To hear clips of performances by the Chamber Orchestra of Moscow State University, visit [www.hhmi.org/bulletin/may2008](http://www.hhmi.org/bulletin/may2008).