

## **Presentation of the Mineralogical Society of America Award for 1997 to Jillian Fiona Banfield**

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It is both an honor and a delight for me to introduce Jillian Banfield, the Mineralogical Society of America Awardee for 1997.

Jill received her undergraduate Honors and Masters degrees from the Australian National University, where she worked with Tony Eggleton and Bruce Chappell. To follow up on her studies of weathering and geochemistry of granites, she applied to the Ph.D. program at Johns Hopkins, and based on her record was put up for a distinguished graduate fellowship. Needless to say, the fellowship committee (acting with the wisdom usually associated with committees) ranked Jill at the very bottom, based on her straight D academic record and the resulting 1.0 grade point average. Luckily, it was pointed out to the committee that in the Australian system D refers to distinction, and many of Jill's Ds were actually HDs, for High Distinction. Jill received the award, and she went on to complete a very impressive Ph.D. dissertation in only three and one-half years. Since then, she has proved to be a very able replacement for the late Roebling Medalist, Bull Bailey, at the University of Wisconsin.

Jill Banfield has applied transmission electron microscopy and numerous other methods to a remarkably wide range of problems in the earth and materials sciences, including mineralogy, geochemistry, geophysics, petrology, and microbiology. She is perhaps best known for her pioneering studies into the geochemistry and mechanisms of weathering reactions. I think her work in this area leads the way in understanding why the kinetics of natural and laboratory weathering can be so different.

Although I could read a long list of Jill's other contributions, I will only cite two other areas where she has opened up new mineralogical worlds with a series of incisive papers. First, the crystal chemistry of titanium and magnetic oxides, and second, a whole range of both ordered and disordered mixed-layer serpentine/chlorite structures, work that she completed with Bull Bailey.

Taken together, all of these studies point to high intelligence, an energetic approach to life, and especially a creative mind.

While she was at Johns Hopkins, Jill provided an excellent example for us all. If someone was a few minutes late for an electron microscopy session, oops! Too bad! Show up on time or your slot is Jill's. Jill also taught everyone in my group proper English, greatly enhancing our vocabularies with new terms, such as "the loo." By the way, she also has a sense of humor.

Jill Banfield's energy, determination, and enthusiasm are almost legendary. When she defended her Ph.D. thesis, we were concerned that there wasn't a maternity unit on-site, just in case. A few days later, the second of her three children was born, and a few days after that, she was back in the lab, pasting final figures into her thesis with one hand and rocking the stroller with the other. One week after Andrei was born, Jill and her family hopped in the car, drove from Baltimore to Madison, rented a house, and drove back. If you've ever wondered how Jill Banfield gets so much done, that should give you an idea.

Of course, I'm sure that Jill would be the first to give much credit to her husband, Perry Smith. Perry is a wonderful and creative person, and when he left Baltimore, we all lost a great friend.

I am sure that most of you noticed that Jill, along with Ken Nealson, just ran one of the, if not the, most successful MSA Short Courses ever held, on Geomicrobiology. She is now devoting much of her research time to this exciting new area, and I expect to see great things from her for many years to come. Jill has shown us that with imagination and a strong background in mineralogy, it's possible to travel across disciplinary boundaries and enrich our view of the world. That is an important lesson for any scientist.

It is an honor to present to you Jillian Fiona Banfield, recipient of the 1997 Mineralogical Society of America Award.