

## Acceptance of the Dana medal of the Mineralogical Society of America for 2008

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It hit me like a bolt out of the blue when I learned from a telephone call two years ago that I would be the 2008 recipient of the Dana Medal. Previous evaluations of my research qualification had provided not such a positive view. Anonymous reports testified that my research methodology is rather old-fashioned, lacking innovative aspects. On the positive side it was also mentioned that I am a hard worker, which I already knew from corresponding statements of my parents and my wife: “What you cannot achieve with intelligence you must make up for with hard work.” Struggling in the dilemma between being a mediocre scientist and the recipient of probably one of the most honorable medals in my field, I informed my old friend Giovanni Ferraris at Turino in Italy about receiving the Dana Medal. Giovanni replied: “Thomas, great, the medal is not (only) for you but for the scientific achievements of (Old) Europe in mineralogy.” Now I was happy because this was a solution I could live with. Switzerland is neutral, not member of the NATO or European Union, with its own currency and some interesting banking accounts, but still in the center of Europe, and Thomas Armbruster is the only mineralogist in the Swiss phone book. I had suddenly become a political person.

Almost simultaneously with the notification from MSA about the Dana Medal, my good friends from St. Petersburg in Russia named a layer-silicate mineral “armbrusterite.” Accepting the role of being the mineralogical exponent of Old Europe, this additional honor came without surprise. If the Western world decided to honor me, the Eastern block had to react just for the sake of equilibrium. The only surprise was, and these are secrets of politics, that everything happened independently and without knowledge from one another. Finally, this makes everything even more mysterious, the Science Faculty of the University of Bern decided also in 2007 to promote me after having served 27 years as a subaltern working horse in the Bernese academic system.

One of the additional great benefits of this award is that I get the chance to thank my mentors and supporters and that this acknowledgement will be published in the *American Mineralogist* without substantial review, I hope.

It was the time of enrollment quotas in Germany when I started my studies in the very early 1970s. A central agency assigned me to the university of Mainz (Germany) for studying chemistry. There were about 150 freshmen in chemistry but most of us were only bridging the gap until we received enrollment for medicine, pharmacy, or biology. Finally, less than 10% of my age group actually graduated in chemistry. Although I started my studies with enthusiasm, the large number of students without deep interest in chemistry was rather annoying. Fortunately, I



found out that there is a field called mineralogy with only very few students. The mineralogy students even tried to recruit new fellow students because their lectures were cancelled if less than five people showed up. This more personal working atmosphere, and the opportunity to join field trips, finally convinced me to change fields. Just before finishing my mineralogy master thesis on formation conditions of urinary calculi, a young professor, Eckehart Tillmanns, came from Bochum to Mainz and convinced me to change for a Ph.D. to the University at Bochum. Eckehart became one of my mentors and even many years later he motivated his students to come to Bern to continue their scientific education under my supervision.

I did not like Bochum; I always felt like an alien but this helped me to finish my Ph.D. within two years. My Ph.D. advisor, Otto Flörke, suggested me to apply for a grant by the German Science Foundation to extend my education as postdoctoral fellow either in Australia or the U.S. Together with my girlfriend Gabi, who I already knew since high school, we decided to go to the east coast of the U.S. Otto Flörke had good contacts to VPI and after the grant had been confirmed, we packed our luggage for Virginia. But Otto Flörke had another important

advice: "When moving to the Bible belt you should not live in concubinage but marry before." Actually, it was not only for Otto's advice that we married, but also the scholarship for the U.S. was substantially higher for married couples. At this point a big kiss to my wife, who followed me everywhere, gave up her own carrier, tolerated that she was introduced as the wife of Thomas Michael Armbruster, and even endured a Swiss stamp in her German passport saying: "Reason for living in Switzerland: Stay with husband."

At Blacksburg, I was highly impressed by the strong mineralogy group. Just to name a few, Nancy Ross and Bryan Chakoumakos were just doing their Ph.D. with Gerry Gibbs; Mickey Gunter joined a little bit later to do his Ph.D. with Don Bloss; and George Lager was visiting scientist at VPI. Paul Ribbe, Dave Wones, and Dave Hewitt completed the team of world-renowned mineralogists. Dave Hewitt introduced me to the secrets in setting up hydrothermal experiments, but Don Bloss became my scientific foster father. He educated me in crystal optics, introduced me to cordierite and volatiles trapped in their channels, but most important he also became my paternal friend and mentor. To him I owe my scientific career!

Due to my interest in cordierite, I started a fruitful collaboration with Werner Schreyer, which lasted beyond his retirement. After almost two years at VPI, Gabi and I decided that we wanted to return to Europe. Thus, I applied for a research associate position at the University of Bern in charge of structural investiga-

tions on sulfosalts from the Binn-Valley mine. Werner Schreyer and Don Bloss obviously wrote strong supporting letters because they offered me the opening. The position at Bern was advertised for a single-crystal X-ray specialist with experience in structure solution. However, at Bochum the single-crystal diffractometer was out of scope for a Ph.D. student. Fortunately, George Lager became a good friend at Blacksburg and he volunteered as my personal coach in X-ray and neutron diffraction analysis. Thank you George and Marjorie for your friendship and hospitality at the various places.

After few years at Bern I was able to convince the department chair to transfer the shares of the Binn-Valley sulfosalt mine to ETH at Zürich. This gave me freedom to continue research in my favorite field: "Crystal chemistry of rock-forming silicates." My first Ph.D. student at Bern was Martin Kunz, who initiated my Dana Medal nomination and presented the charming introduction. Since his time as a graduate student at Bern, we are tied by friendship and scientific collaboration.

You have heard about my special relation to working horses. Let me mention only one of countless reasons for this passion: Shoveling their giant droppings keeps my mind free to prepare my lectures and to think about the future of mineralogy, and even the sense of life.

Last but not least, I thank all my friends who supported my Dana Medal nomination, and all colleagues, friends, and guests for joining this event.