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## **Paul Niggli Medal 2004**

The Paul Niggli Medal for the year 2004 was awarded to

### **Olivier Bachmann**

Dr. Olivier Bachmann, who will begin the next phase of his academic life as an Assistant Professor at the University of Washington (Seattle) in mid-2007, is a worthy recipient of the Niggli Medal. His research on the largest known pyroclastic eruption, the Fish Canyon Tuff (San Juan volcanic field, Colorado USA), involved extensive field work, physical volcanology, mineral chemistry and petrology, geochronology, fluid dynamic modelling, and isotope geochemistry. The body of literature which has emerged from this extraordinarily broad and comprehensive investigation is beginning to take its rightful place as a classic investigation of one of the end-member types of pyroclastic units, which also has important implications for the assembly and evolution of batholithic intrusions. It is extremely rare in this day and age that such a young scientist has mastered

so many different analytical tools and modelling methods, in addition to being a top class field geologist. Olivier's ongoing study of the Kos Plateau Tuff in the eastern Aegean appears to be developing the same kind of comprehensive understanding of the Kos magmatic system as we have acquired for the Fish Canyon system.

I also call attention to the fact that Olivier is a perfect colleague and an excellent teacher. He brings enthusiasm and warmth to every human contact, and he is very much appreciated by top scientists at the international level and undergraduate students. He will be missed by the Swiss community when he departs for Seattle, but we will take pleasure in watching him have great success in this new arena.

Mike Dungan

The medal was awarded to Olivier Bachmann on Friday 19 2004 at the Second Swiss Geoscience Meeting in Lausanne.

## **Acceptance of the Paul Niggli Medal**



Please allow me to express how pleased and honoured I am to receive this Niggli medal. Many thanks to the Niggli foundation for giving this award and providing strong encouragement to continue an academic career. Being associated with scientists like Paul Niggli is very humbling, and I can't refrain asking myself how could I ever follow Paul Niggli's footsteps in scientific creativity and productivity. I hope that I can live up to these expectations.

It may seem peculiar that a Swiss scientist decides to focus on volcanology; there are very few countries in the world with less volcanic rocks than Switzerland. One can understand why a Swiss geologist can be puzzled by mountain building processes, but why volcanology? First of all, I think the ultimate cause is that, as many people would agree, volcanic eruptions are one of the most spectacular natural displays, laying out some extraordinary landscapes, and running around volcanoes has been a passion before being a job for me. I actually never thought that I would (or

even could) become a professional volcanologist, until I met my first professor in this field, Michael Dungan, who just arrived in Geneva the year I started my Bachelor degree. Inspired by his enthusiastic lectures on igneous petrology and volcanology, I launched in the adventure and started a fascinating project for my MSc thesis (in collaboration with Pete Lipman, of the USGS); mapping and studying the eruptive dynamics of one of the largest eruptions known on Earth (the Fish Canyon Tuff, in the San Juan volcanic field, Colorado, USA). Everything there was so overwhelmingly big that two weeks into my MSc project, Mike and Pete suggested that I should continue on for a PhD. I immediately accepted, and never regretted it a minute since. This Fish Canyon project is still going on today, more than 10 years after its onset, and I feel extremely lucky to have been able to work with such great individuals as Mike Dungan and Pete Lipman on such an extraordinary pile of rocks. This PhD project allowed me to put my hands on many different facilities and, coached by my two American mentors (Pete and Mike), go relatively deep in volcanology, igneous petrology and geochronology, giving me an ever-changing and exiting prospect to look at.

Doing geological mapping in the Highlands of Colorado provides a feel for total wilderness, a rare emotion for 21<sup>st</sup> Central Europeans. This isolation in our somewhat hazardous working environment (not the least of the hazards being multiple curious bears around us) lead to the fact that we were often working in pairs. Staying in close contact with field partners for weeks lead to some fantastic moments of friendship with Christian Huber, Olivier Roche, Joe Dufek and Groumpf (a famous local). I would also take opportunity at this time to acknowledge and thank all the participants of the 1997 informal Pagosa Peak Dacite workshop, largely organized by Pete and Mike, which remains a very bright memory for me.

A few months after the end of my PhD, while I was working as a post-doctoral researcher at the University of Geneva, I started to think about getting more into the dynamics of magmas, and then I met George Bergantz. George's great know-

ledge, scientific creativity, enthusiasm and sense of humour immediately appealed to me, and led to the prospect of doing a post-doctoral project at the University of Washington, in Seattle. With the generous help of the Swiss National Science Foundation, and the agreement of my wife and 6-weeks old son, we departed to Seattle for two wonderful years. I learned an immense amount during this couple of years, interacting with people like Josef Vance, Marc Ghiorso, Victor Kress, Bernard Evans, Bob Breidenthal, Stu McCallum, and Bruce Nelson, but I also made two of what I hope will be a life-long collaboration and friendship with George Bergantz and Joe Dufek. These two individuals helped me tremendously all along the Seattle era, and I will keep in my mind these wild chats we had almost every day.

After these two years spent in Seattle, I was fortunate enough to go back to the group of Michael Dungan at the University of Geneva as Maître assistant, providing a staircase to new exciting projects (in Greece and Chile). These last two years in the Departement of Mineralogy have been very stimulating for me, and I would like to thank all my colleagues in Geneva, and especially the whole Department of Mineralogy, for creating such a motivating and pleasant working environment. Special thanks (in no particular order) go to Catherine Annen, Catherine Ginibre, Susanne Schmidt, Lluís Fontboté, Robert Moritz, Richards Spikings, Urs Schaltegger, Jacqueline Berthoud and my three diplomants (Julie Bourquin, Caroline Bouvet de Maisonneuve et Cédric Schnyder), who create a really enjoyable work environment. I would end by expressing my deep gratitude to Michael Dungan, for everything he did to help me over the last 10 years, not the least being nominating me for this award.

Finally, my love for rocks is only surpassed by the one for my family, and without them, I would be as stable as plagioclase in the mantle. This Paul Niggli medal is for them, and I am deeply grateful to the Paul Niggli Foundation for bestowing this honour upon us.

Olivier Bachmann