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Acceptance of the Dana Medal of the Mineralogical Society of America for 2023

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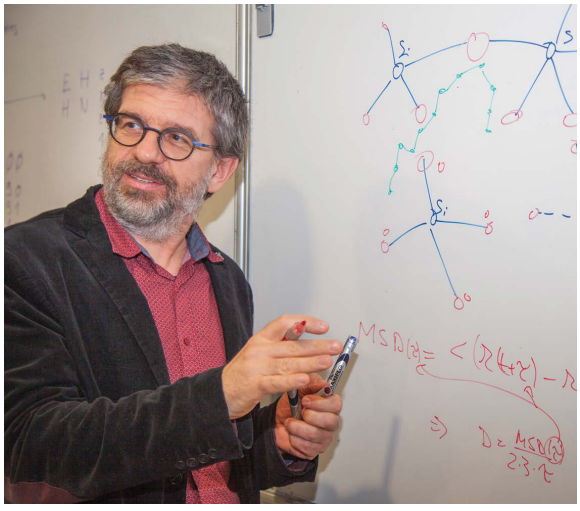
I am deeply honored and humbled to receive the Dana medal. I would like to start by thanking my nominee and writers of support letters, the MSA council, and the committee for selecting me for this prestigious award. My path to here, today, was a long and tortuous one. Few of my colleagues and friends know that I started a very different career at the very beginning. I somehow began undergraduate classes in electrical engineering in my hometown, Brasov, in Transylvania, in the middle of the Carpathians. I was doing math, physics, and computers. But after less than two years, I decided this was not for me, so I quit, ran away, and followed my real passion, paleontology. I moved to Bucharest and started as an undergraduate in the Faculty of Geology and Geophysics at the University of Bucharest. Very soon, the need for equations and mathematical logic knocked again at the door. Here I was extremely fortunate to have in the first semester a class on crystallography, taught by Gyury Ilinca. I would like to warmly thank him, for he is the one who introduced me to the wonders of symmetry, where I could finally apply all the math I knew, the group theory, the matrices, to do something useful and beautiful. In the four years I spent at the University of Bucharest, I became a real mineralogist. I started to do research already in the second year of my undergrad studies. To compensate for the lack of analytical tools, I did a lot of theoretical and computational work. I wrote several small software packages, wrote my first scientific papers, and read as much as I could. I was an avid reader of *American Mineralogist*, and Dana was the epitome of mineralogy for me.

But the economic situation in Romania at the time was dire. So I accepted a Ph.D. fellowship on an industrial contract and left for Belgium. I became a teaching assistant at Université Catholique de Louvain; doing research work on a Nb ore deposit located on the Sokli carbonatite in Northern Finland. But the geology department at the university closed one year after I arrived there. All the assistants were given the option to stay and witness the slow agony of the closure or find a place somewhere else in the university.

I decided to quit the Nb, and with the blessing of my Ph.D. advisor, Philippe Sonnet, whom I would like to thank for his openness and understanding, I inquired with Xavier Gonze in materials science. I wanted to work on phase transitions and the origin of incommensurately modulated structures. I cannot thank Xavier enough for accepting me in his group with my own research topics. In the next five years, the ab initio simulations became my world, and the abinit group became my home.

After the thesis, it was time to go back to mineralogy and geology. As I didn't really know where to start, I had the chance of a series of emails and discussions with Craig Bina and Jay Bass, who, maybe without knowing, led my path to high pressure and the deep earth. I crossed the ocean as a postdoc and spent the first



winter in Minneapolis working with Renata Wentzcovitch on the lower mantle, whom I would like to thank for much advice and for introducing me to molecular dynamics.

In the next year, I was awarded the Carnegie fellowship and moved to the Geophysical Lab in Washington, D.C. These were two wonderful years. I would like to thank first and foremost Ron Cohen for mentoring me and teaching me so much physics, and becoming, over time, a friend, then Rus and Dave, Fei and Steelie, and all the other staff of both GL and DTM. Their insight into science was always a great source of inspiration. After Carnegie, I was a Humboldt fellow in Bayreuth, continuing to explore the depth of the Earth on the computer. Both Carnegie and BGI are wonderful places and I would like to thank all my colleagues and friends from those years who helped me improve as a scientist and as a person.

As the postdoc years came to an end, I was fortunate enough to obtain a CNRS position from the first shot. I must admit that moving to Lyon after Bayreuth was quite a cultural shock. However, I think I survived pretty well, becoming a little more French. And as I like change, two years ago, I moved again to Paris to IPGP, but within the same CNRS. In these CNRS years, my science evolved from crystallography to spectroscopy, from solids to melts, and nowadays from the deep to the early surface. Somehow, I ended up doing exactly the same thing I ran away from: math, physics, and computers. But they have a different purpose now, which is to explore our universe.

Finally, I would like to thank my family, my parents who always supported me, my daughter Sarah and my partner Cecile, for being such nice persons and bearing with me when sometimes I get lost in a Hilbertian space trying to untangle some weird wavefunctions.

Thank you all again.

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